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**Sent:** Mon 2/3/2014 2:05:04 PM
**Subject:** FW: Newsweek: The Many Disasters Behind the West Virginia Chemical Disaster

**From:** Jones, Enesta
**Sent:** Friday, January 31, 2014 7:22 PM
**To:** Gillis, Chris; Behringer, Caroline; Loop, Travis; Sauerhage, Maggie
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**Subject:** Newsweek: The Many Disasters Behind the West Virginia Chemical Disaster

The Many Disasters Behind the West Virginia Chemical Disaster

By Zoë Schlanger
Filed: 1/31/14

When 10,000 gallons of industrial chemicals leak out of a tank built in the 1930s, one mile upriver from a treatment plant that supplies water to hundreds of thousands of people, it may be time for regulators to ask themselves some unpleasant questions.

That's what is happening now in West Virginia, where nine counties and the capital city of Charleston are still reeling from the January 9 Freedom Industries spill on the Elk River, which triggered a 10-day ban on all use of tap water there. The crisis was plagued by a lack of information, and left a licorice-like chemical smell that is still lingering in the sinks of approximately 300,000 people.

Unenforced chemical reporting policies forced medical responders to fend for themselves, not exactly sure what they were dealing with, and lax regulations on above-ground holding containers may have let the offending tank go into disrepair unnoticed. All this exposes a stunningly inept monitoring system in West Virginia, and lax oversight by the U.S. Environmental Protection Agency.

Little is known about what effect crude-MCHM, or 4-methylcyclohexane methanol, has on humans, although there is plenty of data now: Several hundred people were treated in West Virginia hospitals for chemical exposure-related concerns in the weeks following the spill, and many reported skin rashes.

Federal law requires companies to produce data sheets for all chemicals used on worksites, like at the Freedom Industries' Etowah River Terminal, where the spill occurred. The Materials Safety Data Sheet for crude-MCHM exists, but it's full of gaps: medical hazards in need of immediate treatment are listed as "unknown," as are hazards associated with combining crude-MCHM with another chemical. Its chemical stability is "not fully evaluated," according to the sheet, and nearly all fields related to toxicological effects indicate "no data available."

With so little known about the chemical, Elizabeth Scharman, director of West Virginia's Poison Center, and her team must analyze its structure to make predictions about what it will do the human body.

The natural place to turn for answers to this now critical question is the EPA. The Toxic Substances Control Act of 1976 granted that agency the power to regulate the use of chemicals. Under the TSCA, when a company creates a new chemical, the EPA has 90 days to review it, and decide how to regulate it. If the EPA does not set regulations within that time--as often is the case--companies are free to use and distribute that chemical as they see fit.

EPA has only tested and published data on approximately 200 of the 83,000 chemicals in its inventory, according to a California Senate review from 2010. Crude-MCHM is not one of the few that have been tested.

To make matters worse, more than a week after the spill, after an order to disclose was issued by the state, Freedom Industries admitted that a second chemical, PPH, was also in that leaking tank. According to the CDC, PPH is a "proprietary mixture of polyglycol ethers," and they don't know much about its toxic effects, either.

"It is absolutely absurd that we did not have this information from day one from this company," Amy Shuler Goodwin, a spokeswoman for West Virginia Gov. Earl Ray Tomblin, said.

This is "an insurmountable problem," Paul Ziemkiewicz, the director of the West Virginia Water Research Institute, told Newsweek, adding that there are so many organic chemicals used commercially that we cannot possibly conduct adequate studies of each of them.

Ziemkiewicz says West Virginia's lax regulation of above-ground tanks poses an even bigger threat than the lack of information on the chemicals they contain. The tank that leaked into the Elk River "was built using rivet construction in the 1930s," according to a class-action suit filed against Freedom Industries and Eastman. The chemical reportedly escaped through a one-inch hole in the tank, and the mortar of its containment wall subsequently failed.

"If these tanks had been properly maintained and inspected, and if the secondary containment system had been as well, then [the chemical] would never have gotten off this site. That's where the attention has to be paid," Ziemkiewicz says.

The West Virginia Senate passed a bill this week imposing tougher regulations on above-ground storage tanks, a notoriously under-regulated but crucially important facet of the hazardous-materials system. The bill, if passed by the House, would mandate annual inspections for above-ground tanks storing most fluids, and tanks within 25 miles upstream of a water supply source would be watched more closely.

"I think most people were surprised we didn't already have this in effect," Ziemkiewicz says.

It didn't surprise Mary Davis, a professor of pharmacology and toxicology at West Virginia University. "West Virginia is a very pro-industry environment," she tells Newsweek. "[West Virginia lawmakers] do not take kindly to regulating pollution that might have a negative impact on job creation and the economy. And then, they are taken aback when they see the costs--the real financial, quantifiable costs, in addition to anxiety and people not being able to use their water."

Even if the state's new tank regulation becomes law, there will still be too many ways potentially harmful chemicals can make their way into the environment--the air, water, and soil--and too many gaps in available information regarding what effects those chemicals may have.

"Containment would solve probably 90% of the problems," Ziemkiewicz says. "But each of these chemicals end up in a truck at some point, and that truck can crash."