



As you have likely heard by now, there was recently a leak of MCHM (4-Methylcyclohexanemethanol) into the drinking water supply in the city of Charleston, West Virginia. It turns out that there was actually more than MCHM involved in the leak, but since the company failed to notify the authorities about the additional chemical(s), they weren't included in the initial tests for water safety.

The leaking tank problem generated a lot of press because it caused such a large problem to the local community, shutting off the city's water supply for many days. A couple of interesting problems have been highlighted in the news discussions. One of these was the lack of understanding of the hazards associated with the leaked material. Apparently, the best information available to emergency response personnel was obtained from the material safety data sheets (MSDS). Unfortunately, almost all of the important safety information was listed as "unknown."

The next problem of note was the almost *complete lack of planning* by the company, the water district or anyone else concerning what to do in the event of a chemical leak into the drinking water. Then, there is the issue of reports that the storage facility hadn't been inspected for the last 20 years. Not only that, but the leak was reportedly only detected because neighbors complained about odors. The tank had apparently been leaking into the water supply for an unknown length of time.

I found one news article to be quite interesting because it pointed out that the planning activities for this sort of thing are done at the local level by local resources. We have a similar situation in my neighborhood. I live in a "rural" agricultural community that has several potential sources of significant chemical spills into local water supplies. We are located close to the Sacramento River, which is a major source of water for much of the state of California. Our fire department is located within a few feet of Interstate 5, which is the main north-south artery for the western United States. There is always a potential for large spills of a wide variety of chemicals

from tanker trucks, rail cars on the railroad running adjacent to the highway or local storage facilities. There are a number of chemical storage and distribution centers in our small community, handling large amounts of pesticides and other chemicals important to the local agricultural and natural gas drilling industries.

Our fire department is charged with identifying chemical hazards and making plans to control them. However, as a member of the local volunteer fire department, I know that there is nobody in the department who is necessarily qualified to do any of this work (with the possible exception of myself). The department sends out a fire department member without any training or background in safety (who happens to be the chief) to look at new chemical facilities as part of the county permit process. He signs whatever needs to be signed to obtain the permit, and that is the end of it. There is no follow up. There are no verification inspections or periodic inspections. Nobody looks at or evaluates company safety plans, and the department has no internal plans, equipment or training in what to do in the event of a significant spill.

While it sounds extreme, it is the way it's done in every small town and city in northern California — and probably the other states, as well. Generally, there are no resources available to do this sort of planning, and most of the people who are charged with doing it have no training, ability or inclination to do so. In many cases, these people are the same people who would have to spend extra money if something was found needing to be fixed. The local folks who are in control also tend to be the local folks who have a financial stake in everything that happens locally. They are also usually convinced that they are being overly regulated by government agencies of all sorts in the first place.

In addition to a lack of qualifications to perform comprehensive emergency planning, a lack of chemical safety information makes effective planning almost impossible. It is my understanding that something close to a "Catch 22" cycle exists. The Toxic Substance Control Act



“ ...there was recently a leak of MCHM (4-Methylcyclohexanemethanol) into the drinking water supply in the city of Charleston, West Virginia.... One of [the problems] was the lack of understanding of the hazards associated with the leaked material. Apparently, the best information available to emergency response personnel was obtained from the material safety data sheets (MSDS). Unfortunately, almost all of the important safety information was listed as ‘unknown.’ ”

(TSCA) of 1976 requires companies to perform safety studies on chemicals that the EPA has determined are hazardous. However, the EPA doesn't have the staffing or funding needed to determine which chemicals might fit into this category of requiring safety studies. Not only that, there are tens of thousands of chemicals, formulations and mixtures that are unknown to the EPA. The end result is that few chemicals are actually studied for safety. The main tool used to notify the EPA that a chemical is hazardous comes from epidemiological studies in which people have been found to have been injured by the materials.

MSDSs are required for chemicals placed into commerce, but these are often created by individuals lacking the necessary qualifications and based on questionable data and MSDSs for the materials that are used to make the new product. Even if the information for the raw materials was good (an extremely unlikely situation), the assumption that the risks of the final product can be predicted from the risks of the raw materials is fraught with uncertainty. For example, the risks of water are different from the risks of either of the constituent parts (hydrogen and oxygen). There are risks associated with water, but flammable and explosive hazards no longer apply once the materials have combined into a new form. It should also be noted that there are essentially no government or third-party reviews of the quality of MSDSs. The documents are assumed to be valid, complete and accurate without oversight or review.

Because of these (and many other) issues, it seems the system designed to protect people and the environment from potentially hazardous chemicals and materials is woefully inadequate. While the structure and

framework for appropriate regulations and planning are in place, they are often ignored and not enforced because of limitations on funding, manpower and the will to do so.

There is constant pressure from the news media and politicians to deregulate and remove existing safety and environmental protections. The public seems to assume that we have a strong consumer and environmental safety culture, when we actually have a lax one. Examples of “overregulation” get front-page news coverage, but the positive impacts of appropriate regulations and the need for additional regulations with effective monitoring and oversight seldom get reported.

Most people that I talk to are shocked and appalled when I tell them that few products have been tested or evaluated for safety, and that the vast majority of chemicals have unknown safety characteristics. Most homeowners are equally ignorant about the lack of safety planning and site inspections for the chemicals stored in their neighborhoods and near their sources of water. They believe that the government is not only looking after their welfare in these areas, but that it is doing so in excess — causing harm to industry and the economy. I guess this is what is meant by “living in a fool's paradise.” I don't know what we can do to address these issues, but we can at least attempt to educate our friends and neighbors regarding the lack of regulation and scientific understanding of the safety implications of the chemicals that surround us on a daily basis. Unless the public is informed about the true nature of the regulatory situation, people will continue to believe that we are overregulated and are over-studying the issues — and will demand further cuts in funding to these efforts. ☹