**To:** Donohue, Joyce[Donohue.Joyce@epa.gov]
**From:** Doyle, Elizabeth
**Sent:** Tue 1/14/2014 6:53:16 PM
**Subject:** FW: Followup on West Virgina Chemical Spill sampling results

Come talk with me

**From:** Burneson, Eric
**Sent:** Tuesday, January 14, 2014 1:43 PM
**To:** Behl, Betsy; Doyle, Elizabeth
**Cc:** Oshida, Phil; Miller, Wynne
**Subject:** RE: Followup on West Virgina Chemical Spill sampling results

Thanks. We will forward material once it arrives from NIEHS and expect a very quick turnaround. We also expect that the information will contain proprietary testing information so we will need to consider it a close hold.

**From:** Behl, Betsy
**Sent:** Tuesday, January 14, 2014 1:41 PM
**To:** Burneson, Eric; Doyle, Elizabeth
**Cc:** Oshida, Phil; Miller, Wynne
**Subject:** RE: Followup on West Virgina Chemical Spill sampling results

Eric: I just spoke to Beth. Joyce should be available to discuss this afternoon.

Betsy

**From:** Burneson, Eric
**Sent:** Tuesday, January 14, 2014 12:21 PM
**To:** Behl, Betsy; Doyle, Elizabeth
**Cc:** Oshida, Phil; Miller, Wynne
**Subject:** FW: Followup on West Virgina Chemical Spill sampling results

Heads Up.

# Ex. 5 - Deliberative

**From:** binetti, victoria
**Sent:** Saturday, January 11, 2014 12:30 PM
**To:** Burneson, Eric; Miller, Wynne; Doyle, Elizabeth
**Cc:** Capacasa, Jon; Arguto, William; Wisniewski, Patti-Kay; Johnson, KarenD; Grevatt, Peter; Clark, Becki; Travers, David
**Subject:** FW: Followup on West Virgina Chemical Spill sampling results

As you likely know, on January 9th, the West Virginia American Water Company has issued a "Do Not Use" advisory for the 200,000 plus customers of their Elk River plant, following a release from a chemical storage terminal (Freedom Industries Etowah Terminal) about 1 ½ miles upstream of their intake. The chemical in question is 4-methylcyclohexanemethanol, a foaming agent used to separate (float) fine coal particles in the coal prep/cleaning process. (MSDS is attached; the Eastman product appears to be a mixture, with MCHM being the predominant chemical.) Colleagues from the West Virginia Department of Health and Human Resources (WVDHHR) have been working with West Virginia American Water Company (WVAWC) to determine best approach to assuring water use can be restored ASAP. DuPont developed an analytic standard, with reliable detection at about 1 ppm, and have trained WVDHHR lab on the same so they can do parallel sampling/analyses with WVAWC. The most recent data available (from Thursday evening) show the concentrations in raw water just above 1 ppm, and finished water at the plant just below 1 ppm. WV DHHR and WVAMC are working on plan to include system flushing (large system, with some areas of distribution as far as 50 miles from plant), and sampling at intake, post-treatment and throughout distribution system, with locations to be determined using hydraulic DS model. The hydraulic model is also being used to guide the flushing protocol. One issue is that the process time for sampling is reported to be lengthy. Ex. 5 - Deliberative

Ex. 5 - Deliberative

CDC/ATSDR have provided advice (to WV DHHR) on level that would be protective of public

health, at 1 ppm (considering all exposure routs, inhalation, dermal and ingestion), based on very limited toxicological information and assumed chemical properties. (See below.) This seems reasonable, given high LD50 for rats. Because data are so limited, CDC/ATSDR aren't comfortable estimating an acute level. The 1 ppm level has made its way into a WaterISAC report on the incident. EPA will likely be asked for concurrence.

We had limited consultation with Steve Allgeier (OGWDW TSD, Cincinnati), who provided good treatment advice (and is working with others on investigating treatment options) and offered unofficial opinion that 1 ppm seemed reasonable, for short term exposure. Note that WVDHHR and WVAWC are considering a strategies including phased relaxation of restrictions, e.g., from ("Do Not Use" to "Do Not Drink"), and geographically relaxing restrictions as areas are "cleared" (for example, concentrations in the distribution system nearest the treatment plant should decline soonest, as release from plant is controlled). The target of 1 ppm will be used to guide these decisions. Ex. 5 - Deliberative

Ex. 5 - Deliberative

Additionally, last evening WV Department of Environmental Protection ordered Freedom Industries to empty the remaining 14 tanks on site; 2 of those (holding MCHM) have been emptied, as was the leaking MCHM tank. Those three tanks will also be dismantled to examine structural integrity and potential leakage. The remaining tanks contain raw glycerin, finished glycerin (raw with water), calcium chloride (28%, 35%, and 38%), lignin, RDC777 (road dust control agents), and weak salt. As we learn more, we will share information if there are concerning chemicals in those tanks.

Please call me if you want to discuss ( Ex. 6 - Personal Privacy ). Thanks.--
Vicky

**From:** Werner, Lora
**Sent:** Friday, January 10, 2014 7:54 AM
**To:** Johnson, KarenD; Wright, Dave
**Cc:** Markiewicz, Karl
**Subject:** Fw: Followup on West Virgina Chemical Spill sampling results

Fyi

**From:** Bixler, Dee <Dee.Bixler@wv.gov>
**Sent:** Friday, January 10, 2014 7:47:39 AM
**To:** Cseh, Larry (ATSDR/DTHHS/OD); Frazer, Teresa E
**Cc:** Werner, Lora S. (ATSDR/DCHI/EB); Holler, James S. (Jim) (ATSDR/DTHHS/OD); Murray, Ed (ATSDR/DTHHS/OD); EOC Report (CDC); Haddy, Loretta E; Ibrahim, Sherif M
**Subject:** RE: Followup on West Virgina Chemical Spill sampling results

Thanks. This has been shared with health incident command, poison control and relevant partners. We greatly appreciate your support through this.

-dee

Danae Bixler, MD, MPH

Director, Infectious Disease Epidemiology

West Virginia Bureau for Public Health

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**From:** Cseh, Larry (ATSDR/DTHHS/OD) [mailto:loc3@cdc.gov]
**Sent:** Fri 1/10/2014 7:09 AM
**To:** Frazer, Teresa E; Bixler, Dee
**Cc:** Werner, Lora S. (ATSDR/DCHI/EB); Holler, James S. (Jim) (ATSDR/DTHHS/OD); Murray, Ed (ATSDR/DTHHS/OD); Cseh, Larry (ATSDR/DTHHS/OD); EOC Report (CDC)
**Subject:** Followup on West Virgina Chemical Spill sampling results

Teresa,

Last night we discussed a screening of 1 ppm, we continue to believe will be protective of public health. The levels reported by American Water for samples collected around 17:00 on January 9, 2014 were between 1.2 and .6 ppm. We do not anticipate any adverse health effects from these levels.

That said because of the odor and not knowing an odor threshold we would also recommend that the system or residents be told to flush their systems until it is no longer observed. ATSDR is

willing to continue to support you with data review and consultation as you need.

Larry

CAPT Larry F. Cseh, R.S., MSA

US Public Health Service

Emergency Response Coordinator

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