To: Sherlock, Scott[Sherlock.Scott@epa.gov]
From: Santacroce, Jeffrey
Sent: Wed 1/29/2014 5:52:22 PM
Subject: RE: OGC query---latest on West Virginia chemical spill---tracy response

Do you need this today?

Jeff Santacroce

Physical Scientist

Records and Docket Management Branch

Information Management Division

Office of Chemical Safety and Pollution Prevention

U.S. Environmental Protection Agency

Phone: 202-564-2818

Email: santacroce.jeffrey@epa.gov

From: Santacroce, Jeffrey
Sent: Wednesday, January 29, 2014 8:19 AM
To: Sherlock, Scott
Subject: RE: OGC query---latest on West Virginia chemical spill---tracy response

You bet.

Jeff Santacroce

Physical Scientist

Records and Docket Management Branch

Information Management Division

Office of Chemical Safety and Pollution Prevention

U.S. Environmental Protection Agency

Phone: 202-564-2818

Email: santacroce.jeffrey@epa.gov

From: Sherlock, Scott
Sent: Wednesday, January 29, 2014 7:39 AM
To: Santacroce, Jeffrey
Subject: RE: OGC query---latest on West Virginia chemical spill---tracy response

Can you create a non-CBI version—maybe striking the one CBI doc?

From: Santacroce, Jeffrey
Sent: Tuesday, January 28, 2014 4:33 PM
To: Sherlock, Scott
Subject: RE: OGC query---latest on West Virginia chemical spill---tracy response

I placed a request for the submissions with the Public Docket Center and stopped by Tracy's office but she was not available.

Jeff Santacroce

Physical Scientist

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Phone: 202-564-2818

Email: santacroce.jeffrey@epa.gov

From: Sherlock, Scott
Sent: Tuesday, January 28, 2014 3:03 PM
To: Santacroce, Jeffrey
Subject: RE: OGC query---latest on West Virginia chemical spill---tracy response

I do not know.

From: Santacroce, Jeffrey
Sent: Tuesday, January 28, 2014 1:41 PM
To: Sherlock, Scott
Subject: RE: OGC query---latest on West Virginia chemical spill---tracy response

Who is the leading the effort to locate all TSCA data related to the chemicals identified in Tracy's email.

Jeff Santacroce

Physical Scientist

Records and Docket Management Branch

Information Management Division

Office of Chemical Safety and Pollution Prevention

U.S. Environmental Protection Agency

Phone: 202-564-2818

Email: santacroce.jeffrey@epa.gov

From: Sherlock, Scott
Sent: Monday, January 27, 2014 10:12 AM
To: Santacroce, Jeffrey
Subject: FW: OGC query---latest on West Virginia chemical spill---tracy response

fyi

From: Williamson, Tracy
Sent: Friday, January 24, 2014 9:19 PM
To: Sherlock, Scott; Sadowsky, Don
Cc: Nguyen, Quoc; Morris, Jeff; Widawsky, David; Flattery, Priscilla; Christian, Myrta
Subject: RE: OGC query---latest on West Virginia chemical spill

There is no real "mystery" to any of the chemicals reported in the press as far as we can tell. As a "full service producer" of chemicals for industries including coal, it shouldn't be a surprise that there are numerous chemicals in terms of number and type involved in the spill from leaking containment at Freedom Industries' facility. The chemicals that we've looked up to date are all on the TSCA Inventory and none are CBI.

Information that we've compiled to date for the front office and OGC is summarized below. I know others have been compiling information as well, but please be advised that I've only been in the loop on a few other emails, so I don't know what information you may already have. Don't hesitate to let us know if you have any questions or need anything else.

Primary chemical

MCHM (CASRN 34885-03-5, "4-methylcyclohexanemethanol")

- Surfactant/frothing/foaming agent
- Put on original TSCA Inventory
- 1 public CDR report from Eastman Chemical (PV is CBI)

Nature of the process in which the chemical is used

Not particularly sophisticated chemistry.

Reaction processes used to make an MCHM frothing agent (34885-03-5, "Cyclohexanemethanol, 4-methyl-") are not very clean, so there are likely left over starting materials as well as byproducts in the mix that is the crude end product. Since these chemicals are used in coal processing (coal washing step), which is not particularly sophisticated processing, they product doesn't need to be cleaned up first (it can be used in the crude form). So there are a number of chemicals in the crude product being produced so there will be a number of chemicals in the spill. Furthermore, in addition to the cyclohexane-alcohol-type frothing agents (like MCHM), there are other types of frothing agents used for coal processing (like aromatic glycol ethers). I don't know if co-formulations (mixtures of more than one type of frothing agent) are ever produced and used, but companies (especially producers) certainly may have more than one type at their facilities.

Other chemicals involved

-

MCHM-related - The composition in the MSDS for "crude MCHM" is below.

· All of these chemicals are on the TSCA Inventory (non-CBI).

· All were put on the original Inventory except the second listed component [CASRN 98955-27-2, "4-(methoxymethyl)cyclohexanemethanol].

· The second listed component [CASRN 98955-27-2, "4-(methoxymethyl)cyclohexanemethanol] came in as a PMN and has no regulatory flags associated with it. It is likely just a byproduct in crude MCHM, but it is very similar to MCHM and also functions as a frothing agent (which is likely why it came in at one point in a PMN).

2. COMPOSITION INFORMATION ON INGREDIENTS

(Typical composition is given, and it may vary. A certificate of analysis can be provided, if available.)

Weight %	Component	CAS Registry No.
68 - 89%	4-methylcyclohexanemethanol	34885-03-5
4 - 22%	4-(methoxymethyl)cyclohexanemethanol	98955-27-2
4 - 10%	water	7732-18-5
5%	methyl 4-methylcyclohexanecarboxylate	51181-40-9
1%	dimethyl 1,4-cyclohexanedicarboxylate	94-60-0
1%	methanol	67-56-1
1 - 2%	1,4-cyclohexanedimethanol	105-08-8

"Other" - There was a list of "other" chemicals that we were provided last week to take a look at. See information provided in the attached email thread.

Aromatic glycol ethers – Regarding Propylene glycol phenyl ether (CASRN 770-35-4, "2-Propanol, 1-phenoxy-") and *di*-Propylene glycol phenyl ether [CASRN 51730-94-0, "Propanol, 1(or 2)-(methyl-2-phenoxyethoxy)-"] more recently reported in the press:

· These are also used as frothing agents in coal processing (washing).

· Both are on the TSCA Inventory (non-CBI).

· Propylene glycol phenyl ether (CASRN 770-35-4) was put on the original Inventory. There are 3 public CDR reports with a National PV of 208,306 lb/yr.

· *di*-Propylene glycol phenyl ether (CASRN 51730-94-0) came in as a PMN and has no regulatory flags associated with it. There are no public CDR reports.

· The relationship between propylene glycol phenyl ether (CASRN 770-35-4) and *di*-propylene glycol phenyl ether (CASRN 51730-94-0) is similar to the relationship between MCHM/4-methylcyclohexanemethanol (CASRN 34885-03-5) and 4-(methoxymethyl)cyclohexanemethanol (CASRN 98955-27-2), in terms of use, reporting under TSCA, etc.

· As a "full service producer" of chemicals for industries including coal, Freedom Industries must be producing both the cyclohexane-alcohol-type frothing agents (MCHM) and the aromatic-glycol-ether-type frothing agents if both were found in the spill.

From: Sherlock, Scott
Sent: Wednesday, January 22, 2014 11:54 AM
To: Sadowsky, Don
Cc: Nguyen, Quoc; Williamson, Tracy
Subject: Denision--OGC query---RE: Yet another chemical identified as present in West Virginia chemical spill

I'll see what we are doing. I understand Tracy is working on this some. Stay tuned.

Bear in mind, while this substance is likely a TSCA reportable chemical, what is described is a chemical being "stored." So there assuredly is an EPCRA 312 (yes-312 issue-not 313 issue) Question I had is why didn't the WV's EPA look there first.

I can probably get the CASRN if this is desired.

Also at home Ex. 6 - Personal Privacy

From: Sadowsky, Don
Sent: Wednesday, January 22, 2014 8:04 AM
To: Sherlock, Scott
Cc: Nguyen, Quoc
Subject: FW: Yet another chemical identified as present in West Virginia chemical spill

Hey, Scott, can you give me some background on this? If you can respond by email, that would be great, I'm working at home Ex. 6 - Personal Privacy but a cold is making talking difficult, and I want to limit it.

Thanks.

Donald A. Sadowsky
Pesticides and Toxic Substances Law Office
Office of General Counsel
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W. 20460
(202) 564-5638

From: Mclean, Kevin
Sent: Wednesday, January 22, 2014 7:56 AM
To: Sadowsky, Don
Cc: Grant, Brian
Subject: FW: Yet another chemical identified as present in West Virginia chemical spill

Not sure if Brian is back yet or not but I was wondering if this was something you would be the right person for Don. Thanks. (If you're not, do you know who would be?)

From: Jones, Jim
Sent: Wednesday, January 22, 2014 6:52 AM
To: Cleland-Hamnett, Wendy
Cc: Grant, Brian; Mclean, Kevin
Subject: Re: Yet another chemical identified as present in West Virginia chemical spill

Assuming RD is correct about the proprietary claim we should work with OGC to determine what is necessary to release chem Identity. Copying Kevin M and Brian G. Jim

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From: Cleland-Hamnett, Wendy
Sent: Wednesday, January 22, 2014 6:13:12 AM
To: Jones, Jim
Subject: Fw: Yet another chemical identified as present in West Virginia chemical spill

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From: noreply+feedproxy@google.com <noreply+feedproxy@google.com> on behalf of EDF Health <edfwebteam@gmail.com>
Sent: Wednesday, January 22, 2014 2:49:18 AM
To: Cleland-Hamnett, Wendy
Subject: Yet another chemical identified as present in West Virginia chemical spill

Yet another chemical identified as present in West Virginia chemical spill

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Yet another chemical identified as present in West Virginia chemical spill

Posted: 21 Jan 2014 06:13 PM PST

By **Richard Denison**

Richard Denison, Ph.D., is a Senior Scientist.

Just when you thought this story couldn't get any weirder or worse, it has just been

revealed that another chemical substance was present alongside the crude MCHM mixture that leaked into the Elk River and contaminated the drinking water of 300,000 West Virginia residents.

A **story published late today in the *Charleston Gazette* by Ken Ward, Jr.**, reports that the U.S. Environmental Protection Agency (EPA) has told officials that a chemical identified as "PPH, stripped" was present in the leaking tank at a level of 5.6%. A **Material Safety Data Sheet (MSDS) for the substance**, provided by the *Gazette*, describes the substance as consisting of 100% "polyglycol ethers" – but withholds the substance's specific chemical identity as "proprietary."

And while the scant toxicity data provided on the substance in the MSDS suggest it has lower acute oral toxicity than the crude MCHM mixture – at least for what is called the "majority component" (suggesting that this substance, too, is a mixture) – the MSDS notes that "PPH, stripped" is a "serious eye irritant" and a skin irritant.

It has already been **reported by the Charleston Gazette** that some residents making hospital visits did so because of rashes or other skin irritation; **other reports** indicate eye irritation among residents as well. It should be noted that the **MSDS for crude MCHM** reports that it is also a skin and eye irritant.

Some quick searches I've done tonight for "PPH" and "PPH, stripped" – including **one using *ChemIDPlus***, a large chemical database maintained by the National Library of Medicine, have not yielded further information.

All this means yet more questions and more uncertainty for West Virginia residents. A few:

- How did EPA learn of the presence of this new chemical in the spilled material? So far, EPA's not talking.

- Why did it take 12 days for this information to come out? And then, not from the company, Freedom Industries, that owns and operates the leaking tank?

- Has this chemical been monitored for in the river and drinking water samples? (Presumably not, since its presence was just revealed.)

- Who makes PPH, and will they now reveal its identity given the massive human exposure that has occurred?

- Or will EPA exercise its rarely used authority under the Toxic Substances Control Act (TSCA) to compel disclosure of the identity of PPH? **Section 14(a)(3) of TSCA** provides that confidential business information "shall be disclosed if the [EPA] Administrator determines it necessary to protect health or the environment against an

unreasonable risk of injury to health or the environment."

Surely, this is such a case.

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