Message

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]
**Sent:** 3/8/2018 3:57:07 PM
**To:** Bussard, David [Bussard.David@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]; Bateson, Thomas [Bateson.Thomas@epa.gov]
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]
**Subject:** RE: Formaldehyde assessment fact sheet
**Attachments:** SummaryBriefingOptionsforTina030718c.docx

Hi Tom,
I am still working on this, but I think it is at a point where it would be helpful if you could weigh in on the epidemiology summary, since I know you are leaving early today? We are going to send the summary of the leukemia information to Tina-then-Jennifer to see if she likes the format before we work on the nasal cancers (probably tomorrow for that would be my guess). Tom, if you could address my 3 or so questions and scan the text and table to make sure I didn't get anything grossly wrong, that would be great.

David and Santhini,
Feel free to comment on this, but please realize that I need to incorporate Tom's edits and will continue to work on the mechanistic and animal evidence text in the meantime.

Thanks!
-Andrew

**From:** Bussard, David
**Sent:** Thursday, March 08, 2018 8:59 AM
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
**Subject:** Fwd: Formaldehyde assessment fact sheet

Maybe it makes sense to have Santhini and I review the revised materials prior to filling in all of the table.

And, Andrew, would getting a SSC involved help you at all?

David Bussard

Begin forwarded message:

> **From:** "Bahadori, Tina" <Bahadori.Tina@epa.gov>
> **Date:** March 8, 2018 at 7:56:08 AM EST
> **To:** "Ramasamy, Santhini" <Ramasamy.Santhini@epa.gov>
> **Cc:** "Bussard, David" <Bussard.David@epa.gov>, "Kraft, Andrew" <Kraft.Andrew@epa.gov>, "D'Amico, Louis" <DAmico.Louis@epa.gov>
> **Subject: Re: Formaldehyde assessment fact sheet**
>
> Sure. I also want to keep this as simple as possible.
>
> On Mar 8, 2018, at 7:20 AM, Ramasamy, Santhini <Ramasamy.Santhini@epa.gov> wrote:
>
>> Thanks David.
>>
>> **From:** Bussard, David
>> **Sent:** Thursday, March 08, 2018 6:51 AM

**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>
**Cc:** Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
**Subject:** Fwd: Formaldehyde assessment fact sheet

Tina

We are not sure how fast you and Jennifer want this.

Would it make sense to send Jennifer the proposed materials for just leukemia (which we can do faster than nasal) and see if she likes the format?

David Bussard

Begin forwarded message:

> **From:** "Bahadori, Tina" <Bahadori.Tina@epa.gov>
> **Date:** March 8, 2018 at 5:44:20 AM EST
> **To:** "Kraft, Andrew" <Kraft.Andrew@epa.gov>, "Bussard, David" <Bussard.David@epa.gov>, "Thayer, Kris" <thayer.kris@epa.gov>, "Glenn, Barbara" <Glenn.Barbara@epa.gov>
> **Cc:** "D'Amico, Louis" <DAmico.Louis@epa.gov>, "Lavoie, Emma" <Lavoie.Emma@epa.gov>, "Ross, Mary" <Ross.Mary@epa.gov>, "Ramasamy, Santhini" <Ramasamy.Santhini@epa.gov>
> **Subject: RE: Formaldehyde assessment fact sheet**
>
> Thank you!
> Tina
>
> ---
>
> **From:** Kraft, Andrew
> **Sent:** Thursday, March 8, 2018 5:33 AM
> **To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>
> **Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
> **Subject:** Re: Formaldehyde assessment fact sheet
>
> Okay, thanks Tina. We'll work something up today (focusing on nasal cancers and myeloid leukemia- not AML/CML) and distribute back to this group this afternoon.
>
> -Andrew

**From:** Bahadori, Tina
**Sent:** Wednesday, March 7, 2018 6:29 PM
**To:** Kraft, Andrew; Bussard, David; Thayer, Kris; Glenn, Barbara
**Cc:** D'Amico, Louis; Lavoie, Emma; Ross, Mary; Ramasamy, Santhini
**Subject:** RE: Formaldehyde assessment fact sheet

I like this approach and I think if you stabilize a draft, we can run it by Jennifer as draft, to see if it works for her.

Tina

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**From:** Kraft, Andrew
**Sent:** Wednesday, March 7, 2018 4:39 PM
**To:** Bussard, David <Bussard.David@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>
**Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

Thanks, David. We don't need to have both figures.

**Ex. 5 Deliberative Process (DP)**

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**From:** Bussard, David
**Sent:** Wednesday, March 07, 2018 4:08 PM
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>
**Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

Some reactions. (Andrew, thank you for providing a first-draft or mock-up!)

**Ex. 5 Deliberative Process (DP)**

**Ex. 5 Deliberative Process (DP)**

David

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**From:** Kraft, Andrew
**Sent:** Wednesday, March 07, 2018 3:21 PM
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>
**Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

Hi Tina,

I wanted to check in for feedback before I went too far down the road of developing this "table", and before we went through our NCEA-W refinements. Attached is the beginning of a draft for leukemia focusing on the type of details we might include on the epidemiologic studies. I

Ex. 5 Deliberative Process (DP)

I know it is messy, but a couple questions on redirection:

Ex. 5 Deliberative Process (DP)

Thanks. I will jump right back on developing this further once I hear back, after which I'll run it through Tom, Santhini, and David before circling it back to this group.

-Andrew

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**From:** Bahadori, Tina
**Sent:** Wednesday, March 07, 2018 1:44 PM
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>
**Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

Jennifer stopped by....really what she is looking to give him is a table that lists the studies and highlights the ones that were key to the cancer assessments. It is really amorphous and she needs to see this first to see if it will work. So definitely don't spend too much time producing prose. Just see what is the best visual way to show the studies that were used and if possible which were drivers.

Thanks,
Tina

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**From:** Kraft, Andrew
**Sent:** Wednesday, March 7, 2018 9:38 AM
**To:** Thayer, Kris <thayer.kris@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>
**Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

Can we send a bunch of forest plots? Kidding. For our conclusions it probably wouldn't be too hard (it will take time and will likely be more studies than he might be expecting, but doable). For other agencies, ... ugh.

I will circle with David and Santhini sometime this afternoon (Barbara is out of town) and get back to you with a plan.

Thanks for sharing,
Andrew

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**From:** Thayer, Kris
**Sent:** Wednesday, March 07, 2018 9:34 AM
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
**Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

Yeah. Uh. It's called an ASSESSMENT.

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**From:** Bahadori, Tina
**Sent:** Wednesday, March 7, 2018 9:29 AM
**To:** Bussard, David <Bussard.David@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
**Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie,

Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
**Subject:** FW: Formaldehyde assessment fact sheet

Before I recoil with hysterical laughter, can someone tell me how one would even do this?

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**From:** Orme-Zavaleta, Jennifer
**Sent:** Wednesday, March 7, 2018 9:14 AM
**To:** D'Amico, Louis <DAmico.Louis@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>
**Cc:** Rodan, Bruce <rodan.bruce@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>; Yamada, Richard (Yujiro) <yamada.richard@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

Morning all, had a call from Ryan who greatly appreciated this information and has an additional request

In a similar fashion, can we pull together a list of the studies we evaluated on the carcinogenicity of formaldehyde, nasal, leukemia and other endpoints. It would be good to note our thoughts on how solid the different studies are, and if we can indicate for the other organizations who classified HCHO on carcinogenicity, which studies they relied on

Let me know if you have questions, thanks

Jennifer Orme-Zavaleta, PhD
Principal Deputy Assistant Administrator for Science
USEPA Office of Research and Development

DC: 202-564-6620
RTP: 919-541-2283
Ex. 6 Personal Privacy (PP) cell)
orme-zavaleta.jennifer@epa.gov

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**From:** D'Amico, Louis
**Sent:** Tuesday, February 27, 2018 9:28 AM
**To:** Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>
**Cc:** Rodan, Bruce <rodan.bruce@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

New and improved, now with a bottom lines section. Let us know if you need anything else.

-Lou

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(NOTE NEW CONTACT INFORMATION)

Louis D'Amico, Ph.D.
Assistant Center Director, Communications and Regulatory Support - National Center for Environmental Assessment
Associate Director for Policy and Communications - Human Health Risk Assessment National Research Program
U.S. EPA Office of Research and Development
damico.louis@epa.gov
O: (202) 564-4605 M: Ex. 6 Personal Privacy (PP)

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**From:** Orme-Zavaleta, Jennifer
**Sent:** Thursday, February 22, 2018 9:11 AM
**To:** D'Amico, Louis <DAmico.Louis@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>
**Cc:** Rodan, Bruce <rodan.bruce@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

This looks good, thanks Lou.

**Ex. 5 Deliberative Process (DP)**

Jennifer Orme-Zavaleta, PhD
Principal Deputy Assistant Administrator for Science
USEPA Office of Research and Development

DC: 202-564-6620
RTP: 919-541-2283
Ex. 6 Personal Privacy (PP) (cell)
orme-zavaleta.jennifer@epa.gov

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**From:** D'Amico, Louis
**Sent:** Wednesday, February 21, 2018 6:20 PM
**To:** Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>; Bahadori, Tina

<Bahadori.Tina@epa.gov>
**Cc:** Rodan, Bruce <rodan.bruce@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

Here's a new draft of a formaldehyde fact sheet. Hopefully a little closer to the mark?

Let us know next steps!

-Lou

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(NOTE NEW CONTACT INFORMATION)

Louis D'Amico, Ph.D.
Assistant Center Director, Communications and Regulatory Support - National Center for Environmental Assessment
Associate Director for Policy and Communications - Human Health Risk Assessment National Research Program
U.S. EPA Office of Research and Development
damico.louis@epa.gov
O: (202) 564-4605 M: Ex. 6 Personal Privacy (PP)

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**From:** Orme-Zavaleta, Jennifer
**Sent:** Wednesday, February 21, 2018 9:30 AM
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>
**Cc:** Rodan, Bruce <rodan.bruce@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>
**Subject:** RE: Formaldehyde assessment fact sheet

It's a start – go back to what I sent you on PFAS – this needs to be about formaldehyde, and not specifically the iris assmt

What is it, what is it used for, where is it in the env, etc
And then a section on the assmt and issues

Jennifer Orme-Zavaleta, PhD
Principal Deputy Assistant Administrator for Science
USEPA Office of Research and Development

DC: 202-564-6620
RTP: 919-541-2283
Ex. 6 Personal Privacy (PP) cell)
orme-zavaleta.jennifer@epa.gov

**From:** Bahadori, Tina
**Sent:** Tuesday, February 20, 2018 5:51 PM
**To:** Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>
**Cc:** Rodan, Bruce <rodan.bruce@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>
**Subject:** Formaldehyde assessment fact sheet

Hi Jennifer,
Please find attached the fact sheet for the formaldehyde assessment. We tried to make it as plain English as possible. Please take a look and let us know if it works or if you would like changes made. For now, we left Richard off until we know we have met your target.

Thanks,
Tina

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Tina Bahadori, Sc.D.
Director, National Center for Environmental Assessment (EPA/ORD/NCEA)
National Program Director, Human Health Risk Assessment (EPA/ORD/HHRA)
RRB Room 71210; Telephone: 202-564-7903; Mobile: Ex. 6 Personal Privacy (PP)