

From: Mace Barron/GB/USEPA/US
Sent: 5/18/2010 3:22:35 PM
To: Gregory Wilson/DC/USEPA/US@EPA
CC: Albert Venosa/CI/USEPA/US@EPA; Deborah McKean/R8/USEPA/US@EPA; Emily Zimmerman/R1/USEPA/US@EPA; Fred Stroud/LV/USEPA/US@EPA; Harry Allen/ERT/R2/USEPA/US@EPA; Michael Hemmer@EPA; Rick Greene/GB/USEPA/US@EPA
Subject: Re: Fw: ACTION: Dispersant Toxicity

can you continue to provide us updates on the tox results?
these were as of Sunday.

From: Gregory Wilson/DC/USEPA/US
To: Mace Barron/GB/USEPA/US@EPA
Cc: Albert Venosa/CI/USEPA/US@EPA, Emily Zimmerman/R1/USEPA/US@EPA, Fred Stroud/LV/USEPA/US@EPA, Harry Allen/ERT/R2/USEPA/US@EPA, Michael Hemmer@EPA, Rick Greene/GB/USEPA/US@EPA, Deborah McKean/R8/USEPA/US@EPA
Date: 05/18/2010 10:02 AM
Subject: Re: Fw: ACTION: Dispersant Toxicity

Mace -

The tests are being performed now. Have not seen data yet. Hopefully today. I will pass on the info. This is what I got so far on tox. Please cc Deborah McKean on all tox email traffic.

[attachment "File 7 Summary of toxicity testing 5.docx" deleted by Mace Barron/GB/USEPA/US] [attachment "File 7 Summary of tox. testing May 16.docx" deleted by Mace Barron/GB/USEPA/US] [attachment "File 3 Cruise_2_Sampling_Tracking_Master.xls" deleted by Mace Barron/GB/USEPA/US] [attachment "File 2 tdi_brooks_mccall_sampling_0516.pdf" deleted by Mace Barron/GB/USEPA/US]

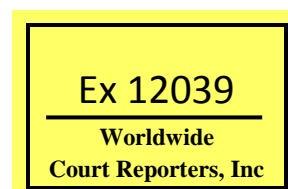
Gregory Wilson, Ph.D.
U.S. Environmental Protection Agency
Office of Emergency Management (OEM)
Regulation and Policy Development Division
1200 Pennsylvania Ave., NW (5104A)
Washington, DC 20460
cell: (202) 341-1248
tel: (202) 564-7989
fax: (202) 564-2625

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To: Gregory Wilson/DC/USEPA/US@EPA
Cc: Albert Venosa/CI/USEPA/US@EPA, Emily Zimmerman/R1/USEPA/US@EPA, Fred Stroud/LV/USEPA/US@EPA, Harry Allen/ERT/R2/USEPA/US@EPA, Rick Greene/GB/USEPA/US@EPA, Michael Hemmer@EPA
Date: 05/18/2010 10:56 AM
Subject: Re: Fw: ACTION: Dispersant Toxicity

Greg, were rototox tests ever performed? What were the results?
FYI: GED is currently evaluating the test kits in house (not with oil, but with standard tox assays to evaluate consistency and reproducibility).

Could you provide an update on what has or will be done regarding rototox and deep water dispersant application?
sincerely,
Mace

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From: Gregory Wilson/DC/USEPA/US
To: Emily Zimmerman/R1/USEPA/US@EPA
Cc: Mace Barron/GB/USEPA/US@EPA, Rick Greene/GB/USEPA/US@EPA, Albert Venosa/CI/USEPA/US@EPA, Fred Stroud/LV/USEPA/US@EPA, Harry Allen/ERT/R2/USEPA/US@EPA
Date: 05/17/2010 01:35 PM
Subject: Re: Fw: ACTION: Dispersant Toxicity

[attachment "dispersant-plume-monitoring-for-may14.pdf" deleted by Mace Barron/GB/USEPA/US]

Mace -

If you recall we spec'ed out the rototox test for the subsurface monitoring.

From: Emily Zimmerman/R1/USEPA/US
To: Gregory Wilson/DC/USEPA/US@EPA
Date: 05/17/2010 01:24 PM
Subject: Fw: ACTION: Dispersant Toxicity

Assistant PIO, BP Oil Spill
Headquarters Emergency Operations Center

Emily E. Zimmerman
Public Affairs Specialist
Office of the Regional Administrator
Environmental Protection Agency Region 1
5 Post Office Square, Suite 100
Mail Code: OFA-01-4
Boston, MA 02109-5018

Work: 617-918-1037
Cell: 857-366-0397
----- Forwarded by Emily Zimmerman/R1/USEPA/US on 05/17/2010 01:24 PM -----

From: Mace Barron/GB/USEPA/US
To: Emily Zimmerman/R1/USEPA/US@EPA
Cc: "Rick Greene" <Greene.Rick@epamail.epa.gov>
Date: 05/17/2010 01:14 PM
Subject: Re: ACTION: Dispersant Toxicity

Here are some quick answers Emily (am on leave today, and just using Black Berry).

- 1) The dispersant alone is less toxic than crude oil alone. Chemically dispersed oil can be more toxic than oil alone to aquatic life because more oil disperses into water.
- 2) Chemical dispersant is a viable option because of the trade off is about keeping oil off shore vs allowing more to reach nearshore/inshore. Keeping offshore will allow opportunity for biodegradation and dispersion before oil reaches the beach. For deep dispersion, trade off is toxicity to deep water ocean organisms (less abundant, unknown sensitivity) vs off shore and inshore organisms.
- 3) LC50: the 50 part is the 50 percent (ie, median lethal concentration)
- 4) To my knowledge there are no tox tests being performed for deep water dispersion. Some tests were proposed, but never in

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final plan.

----- Original Message -----

From: Emily Zimmerman

Sent: 05/17/2010 12:52 PM EDT

To: Mace Barron

Subject: ACTION: Dispersant Toxicity

Mace,

We are hoping to get these questions answered ASAP to be published on the website. There is a general concern that people will wonder why we will use dispersants if they are initially more toxic. These questions below get at that answer. If you could fill in the technical information/language, and create any other questions that you think are necessary that would be great.

Thanks

Emily

Information about Dispersants and Toxicity Testing:

Q. Is the dispersant more toxic than the dispersant/oil mixture?

A.

Use of dispersants presents a difficult trade-off between higher toxicity in a smaller area versus lower toxicity over a much larger area. Our goal is to prevent oil from reaching the shoreline in significant amounts, causing major environmental damage to the region. Collectively our scientists continue to believe use of dispersants on oil will cause less ecological harm than oil alone, and we are carrying out an aggressive monitoring plan to further support this conclusion. We will share information and data publicly as soon as it is available.

Q. Why is using dispersants a viable option?

A.

Q. What is a toxicity test?

A toxicity test is the method of determining the toxicity of a chemical or an effluent using living organisms. The test measures the degree of response of an exposed test organism to a specified chemical or effluent.

Q. What is an LC50?

A. LC stands for "Lethal Concentration" and is the concentration of the chemical in the water that kills 50% of the test animals in a given time.

Q. What types of toxicity tests are being performed to monitor the biological impacts of subsurface dispersant application?

A. Rotifer toxicity tests

Sea urchins

Assistant PIO, BP Oil Spill

Headquarters Emergency Operations Center

Emily E. Zimmerman

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Public Affairs Specialist
Office of the Regional Administrator
Environmental Protection Agency Region 1
5 Post Office Square, Suite 100
Mail Code: OFA-01-4
Boston, MA 02109-5018

Work: 617-918-1037
Cell: 857-366-0397

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