

Experts weigh risks of chemical ammo against oil in Gulf

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By Elizabeth Weise, USA TODAY



By MIchael B. Watkins, U.S. Air Force via Getty Images

An Air Force C-130 Hercules drops chermical dispersants in the Gulf last month to combat oil.

When seven fishermen helping to clean up the Gulf of Mexico oil spill in Breton Sound, La., were hospitalized with respiratory and other problems last week, suspicion turned to the chemical dispersants being used.

Still, most experts agree that the spilled oil presents bigger risks to humans than do the dispersants. "No matter how you look at it, the oil is more toxic than dispersants," says LuAnn White of the Tulane University Center for Applied Environmental Health in New Orleans.

Gina Solomon of the National Resources Defense Council (NRDC) suggests one possibility might be that the fishermen were hit with hydrocarbon pneumonia, when oil mist ends up in the lungs, creating a powerful irritation and immunological effect. She says her fear is that the dispersant might allow the oil to more easily become a breathable mist during high winds, though there was no wind when the fishers took ill. A Coast Guard spokeswoman, Capt. Meredith Austin, said that fatigue, working in hot weather and even the smell of petroleum could produce similar symptoms.

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In any event, as oil continued leaking into the Gulf on Monday, the debate over the semi-experimental use of dispersants in the largest oil spill in U.S. history continues. So far, more than 820,000 gallons of Corexit 9500 have been used in the Gulf. The Environmental Protection Agency had asked BP to stop using it or explain why it couldn't. BP said the dispersant was the best tool and reduced the amount it was using by at least half.

A coalition of Gulf environmental and fishing groups has called for President Obama to immediately end the use of dispersants, unless government scientists agree they are safe. Other groups say the dispersants, which break the oil into tiny droplets, might be helpful.

"We can't get the oil out of the environment," says Lisa Suatoni, of the Natural Resources Defense Council. "So we're left with a bunch of impossible choices. ... Dispersants aren't a good thing, but they're used to try to direct the oil to the least bad place."

After meeting to study dispersant use, a group of experts from government, universities and industry





issued a statement Friday noting dispersants allow the oil to stay in the water rather than rising to the surface and into sensitive coastal habitats.

"Up to this point, ... dispersing oil into the water has generally been less environmentally harmful," said Nancy Kinner, co-director of the Coastal Response Research Center at the University of New Hampshire.

It's really a case of choosing "the devil you know over the devil you don't," says NRDC's Suatoni, a biologist. No one knows what the dispersants and oil will do in the deep ocean, but what they'll do in wetlands rich in wildlife and fish breeding areas is all too well known.

Dispersants have been used before on the water surface to break up thick sheets of oil. What's different about this spill is that BP has also injected thousands of gallons of dispersants at the leak site, deep underwater.

This has allowed the droplets to be swept along in the Gulf's deep currents. It has also meant the underwater plumes of oil aren't exposed to air and sunlight, which would help break them down. And it means marine life is exposed to the oil that wouldn't have been affected if it all just rose to the surface naturally, says Jerald Schnoor, editor of the journal *Environmental Science and Technology* and a microbiologist who worked on the Exxon Valdez c leanup.

The trade-off for humans is probably good, Tulane's White says: "If you're a public health person like me, I'd rather it not get to the shore, because that's where people are and where our seafood comes from. If you're a marine biologist, you're less likely to want to see it in the water."

The dispersant Corexit 9500 ranks as a "1" on the Hazardous Materials Identification System toxicity scale of 0 to 4, with 4 being worst. The classification notes "irritation or minor reversible injury possible." For comparison, sweet crude oil, the type being spilled into the Gulf, falls between a 2 and a 3. The scale is used on the material safety data sheet required for chemicals by the Occupational Safety and Health Administration.

The danger from dispersants generally applies to workers applying it, not people onshore, White says. The chemicals cause skin irritation, "and they're dispersed through the air, so that can cause respiratory effects."

Corexit 9500 doesn't last long once used, says David Horsup, vice president of research and development for Nalco, which makes it. The product begins to evaporate and degrade within days, eventually becoming mostly carbon dioxide and water, he says.

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