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## Texas Tech's Fibertect Absorbent Can Clean Gulf Oil Spill's Crude



By John Davis

As workers battle the Gulf of Mexico oil spill and officials attempt to decontaminate a clam boat that dredged up old munitions containing mustard gas, a Texas Tech University researcher at Lubbock says his product "Fibertect" can handle both dirty jobs.

Seshadri Ramkumar, an associate professor of non-woven technologies, says the Texas-Tech created non-woven cotton carbon absorbent wipe can clean up crude oil and adsorb toxic polycyclic aromatic hydrocarbon vapors reportedly sickening oil spill clean-up crew members.

Also, Fibertect has been tested to successfully remediate mustard vapors such as those found from dumped munitions discovered by the crew members aboard a clamming boat off the coast of Long Island.

Fibertect has just been approved for use as a sorbent by the U.S. Environmental Protection Agency-- "It definitely has applications for cleaning up the oil spill or this clam boat. Our wipe material is unique from any others in that it easily absorbs liquids, and it has vapor-holding capacity. No product to my knowledge has the capacity to do both," Ramkumar says.

A recent report from the National Oceanic and Atmospheric Administration detected low levels of polycyclic aromatic hydrocarbons associated

with the Deepwater Horizon oil spill, Ramkumar says. Also, such compounds were found at a depth of 400 meters, showing they have not evaporated.

Fibertect already has proven that it also can adsorb toxic fumes associated with chemical remediation, he adds. Evaluation by the Lawrence Livermore National Laboratory found that it can retain off-gassing mustard vapors efficiently and does not shed loose particles.

Originally developed to protect the U.S. military from chemical and biological warfare agents, Fibertect contains a fibrous activated carbon center that is sandwiched between layers. The top and bottom layers, made from raw cotton, can absorb oil, while the center layer holds volatile compounds such as polycyclic aromatic hydrocarbons, or blistering agents such as mustard vapors or other toxic chemicals.

Ramkumar says his latest research shows raw cotton-carbon Fibertect can absorb oil up to 15 times its weight. Unlike synthetic materials like polypropylene that currently are used in many oil containment booms, Fibertect made from raw cotton and carbon is environmentally friendly. It is available commercially in multiple forms by First Line Technology.

"Fibertect already has proven to be effective in the bulk contamination of chemical warfare agents and toxic industrial chemicals, but our proposal here is to use it to aid in the clean-up efforts in the Gulf," says Amit Kapoor, president of First Line Technology. "Fibertect allows for a green, environmentally safe, biodegradable technology that is perfect for the expanding effort to protect and decontaminate coastal lands and wildlife. We welcome the opportunity to work with the government, BP or anyone else in a joint effort to defend and preserve our planet."

*- John Davis is with Texas Tech University, Lubbock.*

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