

CCNY-led team develops non-toxic oil recovery agent

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A team of chemists led by Dr. George John, Associate Professor at The City College of New York (CCNY), have developed a non-toxic, recyclable agent that can solidify oil on salt water so that it can be scooped up like the fat that forms on the top of a pot of chilled chicken soup. The agent could potentially be used to recover oil lost in the British Petroleum (BP) spill in the Gulf of Mexico, Professor John said.

In the laboratory, Professor John and colleagues added a sugar compound mixed in alcohol to diesel [oil](#) floating on top of a saline solution. "Within five minutes, the oil had gelled into a substance thick enough to be scooped up," he said. Then the team separated 80 percent of the oil from the gel using a vacuum distillation process.

The gelling agent developed by his team is environmentally benign. It uses a sugar-based molecule that can be obtained from renewable sources and is biodegradable. In addition, only a relatively small amount of the agent - five percent of the volume of the oil being recovered - is required for the process, which handles a range of oil from crude to vegetable oil, to work.

The BP oil spill, which began April 24, has been pouring oil into the [Gulf of Mexico](#) at the rate of 40,000 barrels per day. Current clean-up methods, which have been in use for more than 40 years, include burning, skimming oil and using chemical [dispersants](#). The latter can be toxic to marine life and may have unknown long-term cumulative effects on the environment, Professor John pointed out.

Provided by City College of New York

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