

# Thousands of gallons of good: LSU chemists help Louisiana prepare large batches of hand rub sanitizer

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LSU Ph.D. student Anthony Mai and his advisor LSU Chemistry Chair John Pojman helped the Louisiana Secretary of State formulate thousands of gallons of hand sanitizer. Credit: LSU Chemistry Chair John Pojman

When the LSU Department of Chemistry received a call a few weeks ago from someone looking for experts to help prepare hand rub sanitizer, LSU chemistry Ph.D. student Anthony Mai agreed to help. It turns out it was the Louisiana Secretary of State's office asking for help with preparing and ensuring consistent quality for about 5,000 gallons of hand rub sanitizer.

"I was excited to help out. The meeting we had to discuss viability was an eye opener to the potential need and scale," Mai said.

Last week, Mai and his advisor LSU Chemistry Chair John Pojman helped oversee the formulation of the first two batches of hand rub sanitizer, which were placed into 5,300 bottles for distribution through the state. The chemists followed the World Health Organization's recipe.

"We had to use our knowledge of chemical structures and purity and dilution," Pojman said. "Mixing 670 gallons of liquids and assuring uniformity is completely different than what we do in a research lab where we will typically deal with 100 milliliters at a time."

However, Mai worked in the [chemical industry](#) before entering LSU's graduate program and is familiar with working with such large-scale amounts of liquid chemicals.

"In industry, we deal with these scales every day," Mai said.

At Sasol, he had worked in research and development as well as at the plant to learn about operations. Now, at LSU, he can conduct his own research.

"The two experiences have prepared me for thinking how to scale from a beaker to large reactors. At LSU with Dr. Pojman's research team, we always get requests for interesting projects from other disciplines or

even outside contracts.

This variation not only keeps us engaged but also prepares us to deal with different problems and how to find creative solutions," Mai said.

By the end of the week, the chemists and the workers at the Elayn Hunt Correctional Center's soap plant warehouse, mixed and bottled thousands more of the sanitizer that will be used to combat the coronavirus.

"This highlights the value of an institution like LSU, where we were able to respond quickly in the midst of a crisis," Pojman said. "Our work was a partnership between Prison Enterprises, the Louisiana Department of Environmental Quality, the Governor's Office of Homeland Security and Emergency Preparedness, local industry and LSU."

Provided by Louisiana State University

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