

UGM Students Find Natural Surfactants for EOR Application

Monday, 25 June 2018 WIB, By: Marwati



Enhanced Oil Recovery (EOR) is the latest method to optimise petroleum exploration. One of EOR methods uses chemicals, namely surfactants, which during this time came from petroleum. Meanwhile, consumption of petroleum increases from year to year but this has not been followed by enough production.

Starting from this problem, three UGM chemistry students, Fadri Fadila, Anggita Rahma Adriani, and Rizqi Muhamad Resa have innovated natural surfactants made from sawdust for EOR application named as *Acid Octyl Lignosulfonat*.

Fadri and friends chose the sawdust due to its abundant supplies from construction works or furniture production. Around the campus there are many lumber producers that have not made use of the sawdust. In fact, the sawdust has high lignin compound that can be made into surfactant to bind the residue of petroleum in old wells across Indonesia using EOR method.

The sawdust is first isolated to get the lignin. Afterwards, it is synthesised to make a surfactant. The produced surfactant has been tested in the lab such as for characterisation using FTIR and SEM-EDX and surfactant performance testing for product quality.

The research by Fadri and fellow students proved to have resolved the waste problem as well as energy problems in Indonesia.

“The need of petroleum as source of energy is big through natural surfactants, so this will optimise the production of petroleum in Indonesia,” Fadri said on Monday (25/6).

This innovation has earned the best paper title in the energy category during *Chemistry National Seminar 2018* hosted by Universitas Gadjah Mada. The product has been granted funds by Higher Learning Directorate General for Student Creativity program for further developments.

Related News

- [UGM Students Create Health Educative Application for Mother and Baby](#)
- [Apps Allow People Obtain Household Services](#)
- [UGM Students Make Anti-Fake-Vaccine Application](#)
- [Information Minister: Students Need to Assess Digital Technology Business](#)
- [Artur Gives Information on Tourist Destinations to Travellers](#)