

**A STUDY ON THE EFFECT OF DURIO ZIBETHINUS-BASED SURFACTANT
ON CRUDE OIL FOR ENHANCED OIL RECOVERY (EOR) APPLICATION**

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DECLARATION

“I hereby declare that this report is the result of my own work except for quotation and summaries which have been duly acknowledged.”

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ABSTRACT

Experimental works to study the effect of Durio Zibethinus- based surfactant on crude oil were carried out. This surfactant, *Lecithin* is extracted from the durian rinds using Supercritical fluid extraction. In this experiment, four tests have been done to analysis the physical and chemical properties of the surfactants. The equipment use is Fourier transforms infrared spectroscopy (FTIR), Gas chromatography- Mass spectrometry (GC-MS), X-ray Diffraction (XRD) and Du Nouy Tensiometer. The experimental analysis has been conducted to identify the chemical compound that contain in the surfactant. After that, the analysis of the physical properties conducted to measure the interfacial tension between crude oil and water for EOR application. This work has proved that the chemicals can be produced locally using local source, consequently posing a potential in EOR processes.