

ABSTRACT

IDENTIFICATION OF FREE FATTY ACIDS IN USED COOKING OIL FROM VENDORS IN THE EAST SURABAYA AREA

Hikmah

This study aims to measure the free fatty acid content in used cooking oil (UCO) utilized by street vendors in the East Surabaya area. Given the high consumption of cooking oil in Indonesia and the potential negative impacts of low-quality UCO, this research is highly relevant. Samples were collected from vendors along Jalan Gubeng, and each sample was analyzed using the alkalimetric titration method to determine the free fatty acid content. The results showed that the oil from vendors 1, 2, and 3 had free fatty acid levels of 0,2107%, 0,2109%, and 0,2108%, respectively, meeting the SNI 7709-2019 standard (<0,3%). In contrast, the oil from vendors 4 and 5 had levels of 0,5119% and 0,3915%, exceeding the established limits, indicating lower quality due to repeated use. High free fatty acid content can increase health risks such as elevated levels of bad cholesterol (LDL) in the blood. This study highlights the importance of monitoring UCO quality and educating vendors on proper oil usage. Additionally, further research is recommended to identify the causes of oil quality degradation and to seek effective UCO waste management solutions.

Keywords : used cooking oil, free fatty acids, alkalimetric titration, oil quality, East Surabaya, consumer health, waste management.