

**DETERMINATION OF OMEGA-6 AND
ANTIMICROBIAL PROPERTIES OF KENAF SEED
FOR FACIAL OIL**

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PROPERTIES OF KENAF SEED FOR FACIAL OIL**

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ABSTRACT

DETERMINATION OF OMEGA-6 AND ANTIMICROBIAL PROPERTIES OF KENAF SEED FOR FACIAL OIL

Kenaf seed (*Hibiscus cannabinus*) has emerged as a promising candidate for cosmetic formulations owing to its unique properties and sustainability. Most existing studies have focused on the fibre aspects of the Kenaf plant, leaving a gap in knowledge regarding its oil. To harness the full potential of Kenaf seed oil in skincare applications, it is essential to investigate its Omega-6 fatty acid content and its effectiveness as an antimicrobial agent. The work focuses on the extraction and analysis of omega-6 fatty acids from Kenaf seeds, with a possible applicability as facial oils ingredients with antimicrobial properties. The Soxhlet extraction with petroleum ether 60-90 °C as solvent was then applied to extract omega-6 (linoleic acid) from Kenaf seeds. Omega 6 was identified by using High-Performance Liquid Chromatography (HPLC-UV) for the analysis of Kenaf seed extracts, while Fourier Transform Infrared Spectroscopy (FTIR) was used in confirming the presence of omega-6 compounds. Antimicrobial tests were conducted to examine the effectiveness of Kenaf seed oil against *S. aureus* (gram-positive) and *E. coli* (gram-negative) bacteria. The finding shows that Kenaf oil rich of unsaturated fatty acids with 46.67% yield, particularly linoleic acid that has soothing effect on skin as well as reduces inflammation levels. The larger inhibition zone around the antibiotic disk indicates susceptibility which means the oil extracted had antibacterial properties which might help produce facial oil without comedogenic effects on people who have acne-prone skin. This study supports the potential of Kenaf seed extract as a sustainable ingredient in the cosmetics industry.