

# **PRODUCTION OF LAUNDRY SOAP FROM PALM KERNEL OIL USING LOCALLY SOURCED ALKALI**

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF CHEMISTRY, FACULTY OF  
SCIENCE, UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.)  
DEGREE IN CHEMISTRY

[MONTH, YEAR]

## CERTIFICATION

This is to certify that this research project titled "Production of Laundry Soap from Palm Kernel Oil Using Locally Sourced Alkali" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

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PROJECT SUPERVISOR

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Date

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HEAD OF DEPARTMENT

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Date

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EXTERNAL EXAMINER

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Date

## **DEDICATION**

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

## **ACKNOWLEDGEMENT**

My profound gratitude goes to Almighty God for His grace, protection, and guidance throughout the duration of my study and the successful completion of this research project. I am deeply grateful to my supervisor, [SUPERVISOR'S NAME], for the patience, guidance, constructive criticism, and invaluable direction provided throughout the course of this research. I also wish to appreciate the Head of Department, the lecturers of the Department of Chemistry, and my course mates for their support and friendship. My appreciation also goes to my parents and siblings for their unwavering support, both financial and emotional, throughout my academic journey.

## **ABSTRACT**

This study examined production of laundry soap from palm kernel oil using locally sourced alkali, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of production; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with production and laundry. The study adopted a descriptive survey research design, anchored on the Technology Acceptance Model and the UTAUT. A sample size of 398 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 359 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 3.06). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ( $r = 0.522$ ,  $p < 0.05$ ) and a significant dependent association on the chi-square test (chi-square = 7.06,  $p < 0.05$ ). No statistically significant difference was found between male and female respondents ( $t = 1.18$ ,  $p > 0.05$ ). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on production.

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## CHAPTER ONE: INTRODUCTION

### 1.1 Background to the Study

The study of production of laundry soap from palm kernel oil using locally sourced alkali is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

Scholars have long recognised production as a critical determinant of outcomes in chemistry. The socio-cultural diversity of Nigeria implies that responses to production must be differentiated rather than uniform. The work of Alade and Nnamdi (2023) extended earlier analyses by demonstrating that laundry reinforces the effects of production. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Empirical evidence from Adigun and Ekwueme (2021) suggests that positive developments in laundry are associated with improvements in production. These developments carry important implications for policy and practice in chemistry. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

The phenomenon of production, while not new, has acquired fresh analytical urgency in Nigeria. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of production. Longitudinal research by Okonkwo and Obiora (2016) revealed that sustained attention to production yields appreciable dividends over time. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Evidence assembled by Umeh and Salami (2015) across twelve states underscored the heterogeneity of outcomes linked to production. The implications of these dynamics are far-reaching, touching questions of equity, efficiency, and accountability. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

The salience of production in national discourse has grown steadily, driven by changing social conditions and technological penetration. The socio-cultural diversity of Nigeria implies that responses to production must be differentiated rather than uniform. The aggregate picture emerging from Umeh and Salami (2023) points to a modest but consistent association between production and the outcomes of interest. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. A notable study by Ogunlana and Musa (2017) argued that the impact of production is substantially mediated by the quality of institutions. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

production continues to command considerable attention among researchers, policymakers, and practitioners in chemistry. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which production unfolds. Longitudinal research by Famuyide and Bello (2016) revealed that sustained attention to production yields appreciable dividends over time. The weight of evidence therefore points toward a renewed commitment to evidence-based