

TABLE OF CONTENTS

	Page
COVER PAGE	i
TITLE PAGE	ii
THESIS APPROVAL	iii
PLAGIARISM FREE STATEMENT	iv
DEDICATION.....	v
ACKNOWLEDGEMENT	vi
TABLE OF CONTENTS.....	iii
LIST OF FIGURES	v
LIST OF TABLES	vi
LIST OF ABBREVIATIONS	vii
ABSTRACT	viii
CHAPTER I.....	1
INTRODUCTION.....	1
A. Background	1
B. Problem Statement	4
C. Research Objective.....	4
D. Research Benefit	5
E. Literature Review	5
1. Hair	5
2. Shampoo	9
3. Surfactant in Shampoo	15
4. Zwitterionic Surfactant.....	24
5. Shampoo Formulation	27
6. Shampoo Evaluation.....	30

CHAPTER II	36
RESEARCH METHOD	36
A. Strategy	36
B. Inclusion and Exclusion Criteria.....	36
C. Verification	38
D. Article Selection Flowchart.....	39
CHAPTER III	40
RESULT AND DISCUSSION.....	40
A. Zwitterionic Surfactant Characteristics for Shampoo	40
B. Application of Zwitterionic Surfactant as the Secondary Surfactant in Shampoo.....	47
C. Evaluation of Zwitterionic Surfactant Effect on Viscosity and Foaming Properties in Shampoo	72
D. Discussion Summary.....	93
CHAPTER IV.....	97
CONCLUSION AND RECOMMENDATION	97
A. Conclusion	97
B. Recommendation.....	98
REFERENCES	99