

## TABLE OF CONTENTS

COVER .....	i
CERTIFICATE OF APPROVAL .....	ii
STATEMENT .....	iii
PREFACE .....	iv
TABLE OF CONTENTS .....	vi
LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
ABBREVIATIONS .....	x
ABSTRAK .....	xi
ABSTRACT .....	xii
CHAPTER I INTRODUCTION .....	1
A. Scientific Background .....	1
B. Research Questions .....	3
C. Research Purposes .....	4
D. Research Benefits .....	4
E. Research Scope .....	4
CHAPTER II LITERATURE REVIEW .....	6
A. MPs in the Aquatic Environment: Definition, Sources, and Fate .....	6
B. MPs Pollution in Freshwater Ecosystem and Aquatic Fauna .....	7
C. FT-IR Spectroscopy: Identification of MP Polymers .....	8
D. Potential of MPs as HM Carriers .....	9
E. Human Health Risk Assessment .....	11
CHAPTER III THEORETICAL BASIS AND HYPOTHESES .....	13
A. Theoretical Basis .....	13
B. Hypotheses .....	15
CHAPTER IV METHODOLOGY .....	16
A. Study Area .....	16
B. Samples Collection .....	17
C. MPs Extraction .....	19
D. MPs Identification and Characterization .....	21
E. Heavy Metal Analysis .....	22
F. Health Risk Assessment .....	23
G. Statistical Analysis .....	25
CHAPTER V RESULTS AND DISCUSSION .....	26
A. MPs in Water and Sediment .....	26
B. MPs in Aquatic Fauna .....	29
C. PCA .....	36
D. MPs Interaction with HMs .....	37
E. Health Risk Assessment .....	40
CHAPTER VI CONCLUSIONS AND SUGGESTIONS .....	42
A. Conclusions .....	42



B. Suggestions .....	43
RINGKASAN .....	44
SUMMARY .....	49
REFERENCES.....	53
APPENDIX.....	63