

DETERMINATION OF AROMATIC COMPOUNDS
IN MALAYSIAN COMMERCIALIZED PETROL
USING SOLID PHASE MICRO EXTRACTION
(SPME) COUPLED TO GAS CHROMATOGRAPHY
MASS SPECTROMETRY DETECTOR (GC-MSD)

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TABLE OF CONTENTS

ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
ABSTRAK	x

CHAPTER 1 INTRODUCTION

1.1	Background of study	1
1.2	Problem statement	4
1.3	Significance of study	5
1.4	Objectives of study	5

CHAPTER 2 LITERATURE RIVIEW

2.1	Evolution of petrol (gasoline)	6
2.2	Petrol composition	7
2.3	Unleaded petrol	7
2.4	Limitation of benzene concentration in petrol	8
2.5	Malaysian petrol standard	8
2.6	Extraction using SPME	9
2.7	Aromatic compounds determination using GC-FID	9
2.8	Aromatic compounds determination using GC-MSD	10
2.9	Aromatic compounds determination using H-NMR	10

CHAPTER 3 METHODOLOGY

3.1	Materials	11
3.2	Apparatus and instrument	11
3.3	Preparation of standard solution	11
3.4	Optimization of SPME conditions	12
	3.4.1 The desorption time	12
	3.4.2 The extraction temperature	12
	3.4.3 The extraction time	12
3.5	Gas chromatography mass spectrometry detector analysis	14

ABSTRACT

DETERMINATION OF AROMATIC COMPOUNDS IN MALAYSIAN COMMERCIALIZED PETROL USING SOLID PHASE MICRO EXTRACTION (SPME) COUPLED TO GAS CHROMATOGRAPHY MASS SPECTROMETRY DETECTOR (GC-MSD)

A method for the identification of aromatic compounds in different varieties of petrol by using solid phase microextraction (SPME) and gas chromatography-mass spectrometry detector (GC-MS) was developed. SPME fiber coated with polydimethylsiloxane (PDMS) was used in this study. The effects of important SPME parameters such as desorption time, extraction time and extraction temperature on the amount of compounds extracted were studied. Optimum conditions for SPME were 40°C for extraction temperature, 10 minutes for extraction time and 100 seconds for desorption time. Using the optimized conditions, aromatic compounds in different samples were determined and the benzene concentration in the samples were compared. It was found that petrol X1 has the highest benzene concentration compared to other petrol samples.