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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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.