

STUDI TENTANG PENYERAPAN DAN AKTIVITAS CARBON  
SEBAGAI ADSORBEN UNTUK PENYERAPAN  
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**A STUDY ON THE EFFICIENCY OF ACTIVATED CARBON AS AN  
ADSORBENT FOR THE REMOVAL OF CARBON MONOXIDE**

By

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Research Report submitted in partial fulfillment of  
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## LIST OF ABBREVIATIONS

<b>Abbreviations</b>	<b>Meaning</b>
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
COHb	Carboxy Hemoglobin
GAC	Granular Activated Carbon
L/min	Litre per Minute
NO <sub>x</sub>	Nitrogen Oxide
O <sub>2</sub>	Oxygen
ppm	Part Per Million
ppb	Part per Billion
SEM	Scanning Electron Microscopic

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## ABSTRACT

A Study on the Efficiency of Activated Carbon as an Adsorbent for the Removal of Carbon Monoxide is intended to determine the efficiency of activated carbon as a pollutant removal through adsorption processes. A system contain burning chamber and activated carbon packed column will be used in this study. Source of pollutant will be palm oil fiber and shell, the reason why palm oil has been chosen is because palm oil industry is one of the source of air pollution in agricultural based. Two different types of activated carbon used in this study are coconut shell, and palm oil shell based carbon. The efficiency of adsorption on palm shell and coconut shell based carbon is determined and moreover, the correlation between efficiency and flowrate had been done through this research. As a result, the performance of activated carbon had been figured out and for further application, study on activated carbon should be done more.

## ABSTRAK

Kajian bertajuk "A Study on The Efficiency of Activated Carbon as an Adsorbent for the Removal of Carbon Monoxide" ini bertujuan untuk mengenalpasti tahap keberkesanan karbon teraktif sebagai penyerap pencemar karbon monoksida. Sabut dan tempurung kelapa sawit digunakan sebagai bahan penghasil karbon monoksida.. Terdapat dua jenis karbon yang digunakan iaitu karbon yang terhasil daripada tempurung kelapa sawit, dan tempurung kelapa. Bagi mengkaji tahap keberkesanan karbon, satu sistem direka yang mana ia mengandungi relau pembakaran dan gas akan mengalir masuk ke dalam bekas berisi karbon teraktif. Bacaan akan diambil sebelum gas melalui karbon dan selepas. Daripada kajian ini, keberkesanan karbon teraktif dapat diketahui dan perhubungan antara keberkesanan penyerapan pada kadar alir berbeza dapat diketahui.