

Thesis Title	A Study for Collection Efficiency of Charcoal Tubes Prepared from Coconut Shell for Organic Solvent Vapours.
Name	Kijchai Siriwat
Degree	Master of Science (Environmental Technology)
Thesis Supervisory Committee	Krisana Teankaprasith, M.S. (Env. Health) Sudhin Yoosook, B.S. Hons, M.S., D. Tech. Sc. Nuanta Muangnoicharoen, M.S. (Pharmacy), Dr. Rer. Nat. (Pharm. Chem.)
Date of Graduation	8 April B.E.2536 (1993)

ABSTRACT

A purpose of this research is the study of collection efficiency of charcoal tube for mixed organic solvent vapour from 8 solvents :Formaldehyde, Ethylalcohol, Diethylether, Ethylacetate, Dichloroethylene, Cyclohexane, Heptane and Toluene. An experiment of collection efficiency for Methyl ethyl ketone, Benzene and Toluene from the specific absorption capacities was obtained from the collection of each saturated sample in closed chamber. For laboratory study, the collection efficiency was obtained from the collection of air sample mixture of 3 organic solvents in test chamber. For field study, the collection efficiency for Benzene vapour was performed at 10 gas stations in Bangkok area and Vicinity.

It was found that the charcoal tube prepared from coconut shell and the standard charcoal tube showed no difference for collection efficiency with 99 % confidence level at the amount of 6 microliters of mixed organic solvent mentioned above. However, it was found that the specific adsorption capacity of activated carbon from coconut shell was less than that of standard activated carbon with significantly 99 % confidence level. For the study in test

chamber with mixture of 3 organic solvent vapours, the charcoal tube prepared from coconut shell and the standard charcoal tube showed no difference for collection efficiency with 99 % confidence level. The field study for collection efficiency of benzene vapour at 10 gas stations in Bangkok area and Vicinity revealed that both types of the charcoal tubes were not different with the collection efficiency of 99 % confidence level.