

KANOG SUKSOMSANKH : EXHAUST GAS FROM GASOLINE ENGINES
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This study was designed to study emissions from gasoline engines. Motor vehicles registered in Bangkok including passenger cars, two and four stroke engine motorcycles, taxis, and two stroke engine tricycles (Sam-Lhor or Tuk-Tuk) were used in the study. Gas samples were collected directly from the exhaust pipes of motor vehicles at five different speeds : idling speed which usually found in traffic jam condition, ten, eighteen, twenty-eight kilometers/hour which were averaged travelling speed in Bangkok, and sixty kilometers/hour which was a city limit of Bangkok. Concentrations of carbon monoxide, oxides of nitrogen, total hydrocarbons and composition of hydrocarbons in gas samples were analyzed. Results from this study showed that the highest concentrations of carbon monoxide and hydrocarbons were found in gas samples from two and four stroke engine motorcycles. The highest levels of oxides of nitrogen were emitted from passenger cars and taxis. Concentrations of hydrocarbon components in gas samples from two stroke engine motorcycles were higher than those from four stroke engine motorcycles. Benzene, toluene and xylene, which are strongly toxic to human health, were major aromatic hydrocarbons found in gas samples from both two and four stroke engine motorcycles.