

1.067 Development of Device Evaluating On-site VOC Emissions during Refueling Gasoline.

Early Career Scientist

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Abstract:

We have developed a new device which can evaluate amount of VOC emissions during refueling process to gasoline cars. This device vacuums an air surrounding fuel filler cap of refueling car and traps volatile organic compounds by a canister filled with activated carbon or silica. By measuring a growth of canister weight, we can evaluate the VOC emissions during refueling process.

Using the developed device, we have evaluated an effect of introducing most recent gasoline dispenser which is equipped with vapor collection liquified system (VLCS) in real world condition. VLCS is basically similar to stage II system used in California and Europe which vacuum refueling emissions and send them to underground tank. Difference of VLCS to stage II system is trapped VOC is not sent to underground tank as a gasoline vapor but trapped VOC is once liquified and sent to underground tank as a gasoline liquid.