JQ.4.16.Setup

September 23, 2014

(4.16) A methane leak in a closed room is assumed to mix uniformly with air in the room. The room is $(4m \times 4m \times 2.5m)$ in dimensions. Take the air density as $1.1kg/m^3$ with an average molecular weight of 29 grams/mole. How many grams of methane must be added to make the room gases flammable? The lower and upper flammability limits of methane ae 5% and 15% by volume respectively.

Setup

There are many ways to solve this. As an example, you can use the ideal gas euqation and Dalton's law to solve it.