

Answer on Question #54426 – Chemistry – Physical Chemistry

Question:

There are two cylinders containing methane gas and Nitrogen dioxide gas. The volume of these two cylinders are 500cm³ and 700 cm³ respectively. Calculate the number of moles of each gas and the total number of mole of the gaseous mixture when the two cylinders are connected together.

Answer:

$$n_1 = V/V_m = 0.5L/22.4L = 0.022 \text{ moles of methane.}$$

$$n_2 = V/V_m = 0.7L/22.4L = 0.03125 \text{ moles of nitrogen dioxide.}$$

$$n_{\text{total}} = 0.022 + 0.03125 = 0.053 \text{ moles.}$$

