

Answer:

From the ideal gas laws we know that

$$P \cdot V = nRT .$$

We need to find the volume of gas, than formula will be

$$V = \frac{nRT}{P}$$

n= 4.00 moles of methane gas, CH₄, T= 15 °C in kelvin 273+15=288K

and P=1.60 atm

$$V = \frac{4mol \cdot 0.0821 \frac{L \cdot atm}{mol \cdot K} \cdot 288K}{1.60atm}$$

V=59,1 L

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