Question #82896

At STP, how many moles of helium gas would occupy 5.57 liters ?

Solution.

Firstly, we should write Standard Temperature and Pressure:

T = 273 K

P = 101325 Pa

Secondly, we should write Mendeleev-Clapeyron equation:

PV = nRT

n = PV/RT, where n – moles, R - universal gas constant = 8,31

n = 101325 Pa *0.00557 m^3 /273 K * 8.31 Pa*m^3/mole*K = 0.25 moles

Solution.

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