

Exercise 1.44 – Gas molar volume

Q1404-01 Calculate the moles of gas present at STP in a 5dm^3 flask.

Q1404-02 What volume of oxygen corresponds to 0.2 moles measured at STP?

Q1404-03 Find the volume occupied at STP by a mixture containing 0.05 moles of hydrogen and 0.025 moles of oxygen gas.

Q1404-04 Calculate the number of moles of gas contained at STP in a 100cm^3 gas syringe.

Q1404-05 Find the volume occupied at STP by a mixture containing 0.01 moles of neon and 0.03 moles of oxygen gas.

Q1404-06 Find the amount of oxygen corresponding to a volume at STP of 40cm^3 of gas.

Q1404-07 A mixture of 400cm^3 of oxygen gas and 640cm^3 of hydrogen gas is contained at STP, calculate the total number of moles present.

Q1404-08 2 moles of carbon monoxide gas are mixed with 4 moles of hydrogen gas at STP, calculate the volume occupied.

Q1404-09 A sample of natural gas contains 120 moles of methane and 20 moles of helium. Calculate the volume in m^3 occupied by the gases at STP to three significant figures.

Q1404-10 The Hindenburg Airship obtained its lift from 7062000 cubic feet of hydrogen gas (at STP). If 1 cubic metre = 35.315 cubic feet, calculate the number of moles of gas needed to fill it to three significant figures.
