

Question #48770, Chemistry, Inorganic Chemistry

Find out the volume of ammonia in 40cm³ of 0.35 mol/dm³ solution.

Find out number of moles:

$$n(\text{NH}_3) = 0.35 \cdot 0.04 = 0.014\text{mol}$$

Ammonia under standard conditions is a gas. One mol of any ideal gas (almost all gases can be considered like ideal ones under standard conditions) occupies 22.4 dm³. Therefore:

$$n(\text{NH}_3) = 0.014 \cdot 22.4 = 0.3136\text{dm}^3$$