

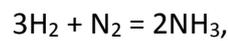
Answer on Question# 58005 - Chemistry - General Chemistry

Convert 2.37L of H₂ gas at STP TO LITERS OF NH₃ using the following equation: 3H₂ + N₂ = 2NH₃.

Solution

The volume occupied by an ideal gas is directly proportional to its amount.

According to the stoichiometric coefficients of the balanced equation,



3 liters of hydrogen produce 2 liters of ammonia;

2.37 liters of hydrogen produce x liters of ammonia;

$$x = \frac{2.37 \times 2}{3} = 1.58 \text{ L.}$$

Answer: 1.58 liters of NH₃.