

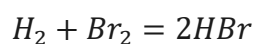
Question #80440

3.2 grams of hydrogen react with 9.5 grams of bromine. Which is the limiting reactant

Answer:

Bromine is the limiting reactant.

Chemical equation:



According to the chemical equation, 1 mole of hydrogen reacts with 1 mole of bromine and they produce 2 moles of hydrogen bromide (hydrobromic acid).

Therefore, I have to calculate, which one of the reactants is in excess:

$$\vartheta(H_2) = \frac{3.2}{2} = 1.6 \text{ moles}$$

$$\vartheta(Br_2) = \frac{9.5}{160} = 0.06 \text{ moles}$$

According to the calculations, there is an excess of H_2 in the reaction mixture, so, bromine is the limiting reactant.

Answer provided by AssignmentExpert.com