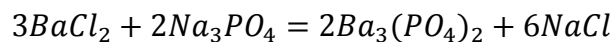


## Answer on Question #41595, Chemistry, Inorganic Chemistry

### Question:

8. Calculate the maximum number of mole of  $\text{Ba}_3(\text{PO}_4)_2$  when 0.6 mole of  $\text{BaCl}_2$  is mixed with 0.6 mole of  $\text{Na}_3\text{PO}_4$ .

### Solution:



According to the stoichiometric ratio, sodium phosphate is in excess; hence, barium chloride is the limiting reactant.

$$n(\text{Ba}_3(\text{PO}_4)_2) \text{ (mole)} = n(\text{BaCl}_2) \cdot \frac{2}{3} = (0.6/3) \cdot 2 = 0.4 \text{ mol}$$

**Answer: 0.4 mol**