

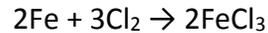
## Answer on Question #52588 - Chemistry – Inorganic Chemistry

### Question

If 240 g of Fe is to be used in this reaction, with adequate  $\text{Cl}_2$ , how many moles of  $\text{FeCl}_3$  will be produced?

### Answer:

The reaction equation is:



Number of moles of Fe is:

$$n(\text{Fe}) = \frac{m}{M} = \frac{240}{55.8} = 4.3 \text{ mol}$$

According to the reaction equation:

2 mol of Fe produce 2 mol of  $\text{FeCl}_3$

4.3 mol of Fe – x mol of  $\text{FeCl}_3$

$$x = \frac{4.3 \cdot 2}{2} = 4.3 \text{ mol}$$

**Answer:** 4.3 mol of  $\text{FeCl}_3$  will be produced