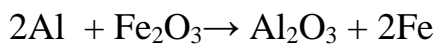


Answer on Question #65058, Chemistry / General Chemistry

If 21.4 g Al reacts with 91.3 g of Fe_2O_3 , the products are Al_2O_3 and iron. What mass of iron will be produced?



$$n = \frac{m}{M}$$

$$M(\text{Al}) = 27\text{g/mol}$$

$$M(\text{Fe}_2\text{O}_3) = 160\text{g/mol}$$

$$n(\text{Al}) = \frac{21.4}{27 \cdot 2} = 0.396\text{mol}$$

$$n(\text{Fe}_2\text{O}_3) = \frac{91.3}{160} = 0.571\text{mol}$$

$$n(\text{Al}) < n(\text{Fe}_2\text{O}_3)$$

$$n(\text{Fe}) = n(\text{Al}) = 0.396\text{mol}$$

$$m(\text{Fe}) = n \cdot M = 0.795 \cdot 56 = 44.38\text{g}$$

Answer provided by <https://www.AssignmentExpert.com>