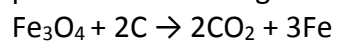


Question #62961, Chemistry / Inorganic Chemistry

What is the maximum mass of iron can be produced from 31.9 g of minerals?

Solution:

The iron itself is usually found in the form of magnetite (Fe_3O_4 , 72.4% Fe). Iron can be produced according to equation:



$$m(\text{Fe}) = \frac{m(\text{Fe}_3\text{O}_4) \times 3 \times M_r(\text{Fe})}{M_r(\text{Fe}_3\text{O}_4)}$$
$$m(\text{Fe}) = \frac{31.9 \text{ g} \times 3 \times 55.845 \frac{\text{g}}{\text{mol}}}{231.533 \frac{\text{g}}{\text{mol}}} = 23.08 \text{ g}$$

Answer:

23.08 g

<https://www.AssignmentExpert.com>