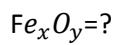


Answer on Question 77390 in General Chemistry

$$m(Fe) = 3.36 \text{ g}$$

$$m(O_2) = 1.44 \text{ g}$$



Find the amount of substance

$$n(Fe) = \frac{m(Fe)}{Ar(Fe)} = \frac{3.36}{56} = 0.06 \text{ mol}$$

$$n(O_2) = \frac{m(O_2)}{Mr(O_2)} = \frac{1.44}{32} = 0.045 \text{ mol}$$

$$Mr(O_2) = 2 \times Ar(O) = 2 \times 16 = 32$$

$$n(O) = 2 \times n(O_2) = 2 \times 0.045 = 0.09 \text{ mol}$$

$$n(Fe): n(O) = 0.06 : 0.09 = 2 : 3$$

The formula is  $Fe_2O_3$

Answer provided by AssignmentExpert.com