Answer on Question #70152 - Chemistry - General Chemistry

Question: If 28.4 g of mercury oxide decomposed, producing 2.0g of oxygen, what is the percent by mass of mercury in mercury oxide?

Solution

As nothing else is mentioned in the question, we assume that the oxide is pure and does not contain any admixtures.

1) Find the mass of mercury in the oxide:
$$m(Hg) = m(oxide) - m(oxygen) = 28.4 - 2.0 = 26.4 \; g.$$

2) Find the percent by mass of mercury in mercury oxide:
$$\omega(Hg \; in \; oxide) = \frac{m(Hg)}{m(oxide)} * 100\% = \frac{26.4}{28.4} * 100\% \approx 92.96\%.$$

Answer: the percent by mass of mercury in mercury oxide is 92.96%.