

Answer on Question #48318, Chemistry, Other

**Task:**

Pd-100 has a half life of 3.6 days. If one had  $6.02 \times 10^{23}$  atoms at the start, how many atoms would be present after 20.0 days?

**Answer:**

$$\text{ending amount} = \frac{\text{beginning amount}}{2^n}$$

$$n = \frac{\text{elapsed time}}{\text{half - life}}$$

$$n = \frac{20}{3,6} = 5,56$$

$$\text{ending amount} = \frac{6,02 \cdot 10^{23}}{2^{5,56}} = 0,13 \cdot 10^{23}$$