

## Answer on Question #65240 - Chemistry -General Chemistry

Convert 22.9 grams  $\text{Pb}(\text{NO}_3)_2$  (molecular weight 331 g/mol) to molecules.

$1.26 \times 10^{-20}$  molecules

$4.16 \times 10^{22}$  molecules

$4.56 \times 10^{27}$  molecules

14.5 molecules

**Solution:**

$$n(\text{Pb}(\text{NO}_3)_2) = \frac{m(\text{Pb}(\text{NO}_3)_2)}{M(\text{Pb}(\text{NO}_3)_2)}$$

$$N(\text{Pb}(\text{NO}_3)_2) = n(\text{Pb}(\text{NO}_3)_2) \cdot N_A = \frac{m(\text{Pb}(\text{NO}_3)_2)}{M(\text{Pb}(\text{NO}_3)_2)} \cdot N_A$$

$$N(\text{Pb}(\text{NO}_3)_2) = \frac{22.9}{331} \cdot 6.02 \cdot 10^{23} = 4.16 \cdot 10^{22} \text{ molecules}$$

**Answer:**

$4.16 \times 10^{22}$  molecules