Answer on Question #50320 - Chemistry – Other

Question

How much mass does 1.51 x 10^{22} atoms of neon represent?

Answer:

Calculate the mass of 1.51 x 10^{22} atoms of neon. The formula is:

$$m = \frac{N \cdot M}{N_A}$$

N – Number of atoms, N = 1.51 x 10^{22} g;

N_A – Avogadro constant, N_A = 6.022·10^{23} mol^{-1};

M – molar mass of neon, M = 20.2 g/mol.

The mass of 1.51 x 10^{22} atoms of neon is:

$$m = \frac{1.51 \cdot 10^{22} \cdot 20.2}{6.022 \cdot 10^{23}} = 0.5 \ g$$

Answer: 0.5 g