

## Answer on Question #58088 - Chemistry – General Chemistry

### Question

How many moles of nitrogen is  $3.94 \times 10^{18}$  nitrogen atoms?

### Answer:

The formula unit of  $\text{CaCl}_2$  is molecule.

The formula for calculation of number of moles is:

$$n = \frac{N}{N_A}$$

$N$  – Number of atoms,  $N = 3.94 \times 10^{18}$  g;

$N_A$  – Avogadro constant,  $N_A = 6.022 \cdot 10^{23} \text{ mol}^{-1}$ .

The number of moles of  $3.94 \times 10^{18}$  atoms of nitrogen is:

$$n = \frac{3.94 \cdot 10^{18}}{6.022 \cdot 10^{23}} = 6.54 \cdot 10^{-6} \text{ mol}$$

**Answer:**  $6.54 \cdot 10^{-6} \text{ mol}$