

How many atoms of chlorine are there in 0.205 moles of phosphorus trichloride?

Answers:

kg → g → mol → molecules → atoms

OR

atoms → molecules → mol → grams → kg

$$\frac{0.205 \text{ mol } PCl_3}{1} \times \frac{6.02 \times 10^{23} \text{ molecules } PCl_3}{1 \text{ mol } PCl_3} \times \frac{3 \text{ atoms } Cl}{1 \text{ molecules } PCl_3} = 3.70 \times 10^{23} \text{ atoms } Cl$$