

Answer on Question #55170 – Chemistry – General chemistry

Question:

1. What is the number of moles of copper (II) nitrate contained in 18.75 g of copper (II) nitrate?
2. What is the number of moles of lithium oxide contained in 90 g of lithium oxide?
3. What is the mass of 1 mole of silver (I) chloride?

Answers:

Here we will use the following formulas:

$$n \text{ (moles)} = m \text{ (g)} / M_w \text{ (g/moles)}$$

$$m \text{ (g)} = n \text{ (moles)} \times M_w \text{ (g/moles)}$$

1. $\text{Cu}(\text{NO}_3)_2$
 $M_w = 187.5558 \text{ g/mol}$
 $m = 18.75 \text{ g}$
 $n = 18.75 / 187.5558 = \mathbf{0.1 \text{ moles}}$
2. Li_2O
 $M_w = 29.88 \text{ g/moles}$
 $m = 90 \text{ g}$
 $n = 90 / 29.88 = \mathbf{3 \text{ moles}}$
3. AgCl
 $M_w = 143.32 \text{ g/moles}$
 $n = 1 \text{ mole}$
 $m = 1 \times 143.32 = \mathbf{143.32 \text{ g}}$