

Answer on Question #63892 - Chemistry – General Chemistry

Calculate the percentage by mass of the indicated element in the following compounds:

-Hydrogen in ammonium sulfate.

-Chlorine in chlorous acid.

-Carbon in calcium hydrogen carbonate.

Solution.

$$1) w(\text{H}) = \text{Ar}(\text{H}) \times 8 / \text{Mr}((\text{NH}_4)_2\text{SO}_4) = 8 / 132 \times 100\% = 6.06\%$$

$$2) w(\text{Cl}) = \text{Ar}(\text{Cl}) / \text{Mr}(\text{HClO}_2) = 35.5 / 68.5 \times 100\% = 51.82\%$$

$$3) w(\text{C}) = \text{Ar}(\text{C}) \times 2 / \text{Mr}(\text{Ca}(\text{HCO}_3)_2) = 12 \times 2 / 162 \times 100\% = 24 / 162 \times 100\% = 14.81\%$$

Answer: 1) $w(\text{H}) = 6.06\%$

2) $w(\text{Cl}) = 51.82\%$

3) $w(\text{C}) = 14.81\%$