

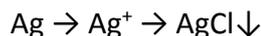
Answer on the question #42968, Chemistry, Other

Question:

5 Gram Alloy Of Cu And Ag Dissolved In Dilute Nitric Acid And Solution Was Heated With NaCl To Get 2.87 Gram Agcl % Pf Silver In The Alloy Is?

Solution:

The chemical conversions occurred with Silver in the alloy are:



Thus, the amount of Silver chloride is equal to the amount of Silver in the alloy.

The mass fraction of Silver in the alloy is:

$$\omega = \frac{m(\text{Ag})}{m(\text{alloy})} * 100\%$$

Silver mass is:

$$m(\text{Ag}) = n(\text{Ag}) * M(\text{Ag}) = \frac{m(\text{AgCl})}{M(\text{AgCl})} * 107.8682 = \frac{2.87}{143.3212} * 107.8682 = 2.16 \text{ g}$$

Then,

$$\omega = \frac{2.16}{5} * 100\% = 43.2 \%$$

Answer: 43.2 %