

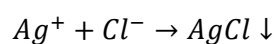
Answer on Question #57247 – Chemistry – Inorganic Chemistry

Question:

A sample of a substance known to contain chloride ion was dissolved in distilled water in a 1L volumetric flask. Then 25.00mL of this solution was reacted with excess silver nitrate. A precipitate of silver chloride was filtered and dried. The mass of the dry precipitate was 0.765g. What is the concentration of chloride ions?

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$$c_{Cl^-} = \frac{n_{AgCl}}{V} = \frac{m_{AgCl}}{M_{AgCl} * V} = \frac{0.765}{169.87 * 0.025} = 0.180 \text{ mol/L}$$