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POST PRECIPITATION, ESTIMATION OF BARIUM SULPHATE

BY, LIPSA SAMAL

ASST. PROF (PA & QA), SPLS, CUTM



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POSTPRECIPITATION:

- In cases where there are ions other than analyte ions which form precipitates with the precipitating agent but at much slower rate than analyte, and if the precipitate of the analyte is left for a long time without filtration then the other ions start forming a precipitate over the original precipitate leading to positive error. Examples include precipitation of copper as the sulfide in presence of zinc. Copper sulfide is formed first but if not directly filtered, zinc sulfide starts to precipitate on the top of it. The same is observed in the precipitation of calcium as the oxalate in presence of magnesium.**



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ESTIMATION OF BARIUM SULPHATE

This method is most widely employed. The effect of various interfering ions (e.g. calcium, strontium, lead, nitrate, The solubility of barium sulphate in cold water is about 2.5 mg L⁻¹; it is, however, greater in hot water or in dilute hydrochloric or nitric acid, and less in solutions containing a common ion. The barium sulphate may be precipitated either by the use of sulphuric acid, or from homogeneous solution by the use of sulphamic acid solution which produces sulphate ions on boiling: $\text{NH}_2\text{SO}_3\text{H} + \text{H}_2\text{O} = \text{NH}_4^+ + \text{SO}_4^{2-} + \text{H}^+$



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PROCEDURE:

- **Precipitation with sulphuric acid. The solution (100 mL) should contain not more than 0.15 g of barium (see Note) and not more than 1 per cent by volume of concentrated hydrochloric acid. Heat to boiling, add a slight excess of hot 0.5M sulphuric acid slowly and with constant stirring. Digest on the steam bath until the precipitate has settled, filter, wash with hot water containing two drops of sulphuric acid per litre, and then with a little water until the acid is removed. ignition processes are done at 900-1000 °C.**



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- **NOTE.** a suitable solution for practice may be prepared by dissolving about 0.3 g of accurately weighed barium chloride in 100ml water and adding 1ml of concentrated hydrochloric acid.



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THANK YOU