CHLORIDES

Testing for chlorides in water has wide application. The salt concentration of sea water, brine, brackish water, and contaminated fresh water can be determined quickly and accurately. In boilers and cooling towers, cycles of concentration can be estimated by comparing the chloride content of the blow-down with that of the make-up water.

Chlorides are determined by titration with silver nitrate solution of known strength using a chromate indicator. The silver ions react with the chloride ions to form insoluble silver chloride until all chloride is removed from solution. The excess silver ion then reacts with chromate to give a characteristic red color.

Chlorides can also be determined by titration with a mercuric nitrate solution of known strength using a diphenylcarbazone indicator. In the pH range 2.3 to 2.8, mercury ions will react with chloride ions to form mercuric chloride, a soluble, slightly dissociated mercury salt. Once all chloride ions are used, the excess mercury ion will react with diphenylcarbazone to give a distinct purple color.

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