

Subject: **Test Principle**

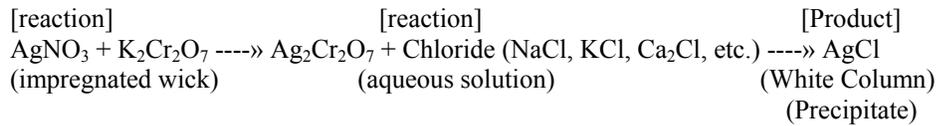
Revision Date: June 14, 2000

Revision No.: 3

Principle:

Quantab® Chloride Titrators consist of a thin chemically inert plastic sheath. Laminated within the sheath is a strip impregnated with silver nitrate and potassium dichromate. This in turn forms silver dichromate. When the Quantab® is placed in aqueous solutions, fluid will rise up the strip by capillary action. The reaction of silver dichromate with chloride ion produces a white column of silver chloride on the strip. When the strip is completely saturated, a moisture sensitive signal string across the top of the titrator turns dark blue.

The length of the white column (silver chloride) in the strip is proportional to the chloride ion concentration.



Specificity/Interferences:

Any anion (for example; bromides, iodides, and cyanides) which will react with the silver dichromate to give an insoluble precipitate, may interfere with the Quantab® test. Very strong acids and bases may also interfere. Nitrite and nitrate have no effect on the Quantab® test. Other known interferences are arsenate, carbonate (extreme levels), oxide, phosphate and oxalate.

Additional Information:

1. Greig, R.A., and H.L. Seagran. "Fishery technology developments Technical Note No. 1 – A Rapid Field Method for Determining the Salt Concentration in Fresh and Smoked Chub." Trends and Development
2. Abstract, Commercial Fisheries Review, Dec. 1965, Vol. 27, No. 12.
3. Headley, Verl E.: "Salt Tracers and Assay Methods in Feed Mixing." Feedstuffs, August 19, 1967, pp. 60-67.
4. Headrick, T.I., and S.H. Schanderl. "Salt Analysis of Cheese by a Simplified Method." Journal of Dairy Science 49, Jan. 1966, pp. 114-117.
5. APHA, AWWA, WEF 1995 Standard Methods for the Examination of Water and Wastewater, 19th Edition 1995. Pp. 5-12 to 5-13