

Determination of the Impurities in High Purity Rubidium Chloride

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Key words: trace alkali metal impurities, high purity rubidium chloride, FAAS

Alkali metal elements often occur together, and their separation and simultaneous determination is not an easy task. In this paper, a very simple, sensitive and reliable method is presented for the determination of the trace impurities of alkali metal ions (lithium, sodium, potassium and cesium) in high purity rubidium chloride by flame atomic absorption spectrometry (FAAS). The detection limit which was expressed in characteristic concentration ($\mu\text{g mL}^{-1}$ / 1% absorption) for Li^+ , Na^+ , K^+ , Cs^+ was 0.032, 0.011, 0.034 and 0.183 respectively, and the recovery in the spiked samples was in the range : 91.6% ~ 107.8%. The analytical system can be used conveniently to monitor the product quality of RbCl in the process of its preparation and purification. In addition, the procedure could be adopted for the analysis of other similar samples.