

## C618644 : MAJOR NUCLEAR TECHNOLOGY

KEY WORD: URINE / THORIUM / ALPHA SPECTROMETRY

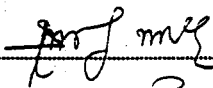
DARUNEE KHONKHUNTHOD : DETERMINATION OF THORIUM CONTENT IN URINE SAMPLES BY ALPHA SPECTROMETRY. THESIS ADVISOR : ASST. PROF. CHAYAKRIT SIRIUPATHAM. THESIS CO-ADVISOR : MR. LOPCHAI SIRIPIROM. 96 pp. ISBN 974-635-777-8

A study was conducted to determine thorium content in urine samples in order to determine suitable technique for large number of samples. The technique selected using wet-ash technique and coprecipitation technique with calcium as oxalate. Thorium was then separated from calcium by coprecipitation with iron hydroxide and purified from other alpha emitters by anion exchange. The purified thorium was microprecipitated with NdF<sub>3</sub> for alpha spectrometry. From 20 non-exposed adults, the concentration of Th-232, Th-230 and Th-228 were in the range of 0.0057 - 0.0428, 0.0189 - 0.1342 and 0.0056 - 0.0746 dpm/L respectively. Thirty samples of the Office of Atomic Energy for Peace employees who engaged in the work of rare earth research and development were analyzed and the results were in the range of 0.0002 - 0.2901, 0.0173 - 0.2658 and 0.0043 - 0.1638 dpm/L for Th-232, Th-230 and Th-228 respectively.

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