

**Record 15 of 26**

**Title:** Chemical analysis of thorium content in gas mantles

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**Abstract:** The thorium content of various gas lantern mantles was studied by a chemical method. In this study, the weight percentages of thorium were measured by inductively coupled plasma analysis at a wavelength of 283.73 nm. The thorium concentration in mantles was found to range from 6.2% to 15.2%. Accordingly, the activity per mantle ranges from (4.7 to 19.8) 10(2) Bq (13.2 to 55.6 nCi), and the calculated committed dose equivalent for ingestion of 10% of the lowest and the highest concentration of thorium mantles was found to be 0.9 mSv and 4.0 mSv respectively. The mass of the mantle ash was found to be one tenth the original mass of the mantle with a similar reduction in the thorium mass.