

## MICROWAVE ASSISTED DETERMINATION OF FeO IN TOURMALINE

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### Abstract

Accurate determination of FeO in acid resistant minerals is impossible by the conventional Pratt's method owing to incomplete sample digestion. Tourmaline is a refractory mineral in which FeO was determined by employing the microwave assisted digestion system for effective sample dissolution and subsequent determination of Fe(II) using redox titration with  $K_2Cr_2O_7$ . Conditions such as applied power, ramping time, temperature and hold time during digestion were optimized. The method was validated using a standard reference material. The developed method was successfully applied to tourmaline samples with a standard deviation "d"  $\leq 0.27$  weight percentage of FeO at different concentration levels.

*Keywords:* FeO, Microwave digestion, Tourmaline, Pratt's method.