

## ABSTRACT

### 2,4,6-TRICHLOROPHENOL PRODUCTION IN AMERICAN TOASTED OAK (*QUERCUS ALBA*)

This thesis evaluated the formation of 2,4,6-trichlorophenol in toasted oak wood exposed to chlorinated tap water. A method of analysis for 2,4,6-trichlorophenol was developed. The method used solid phase extraction and gas-chromatography-mass spectrometry. The method was shown to be efficient and reproducible. The instrument detection level was 0.0001 ppm and the method detection level was 0.0018 ppm. A bench-top laboratory experiment was designed to simulate formation of 2,4,6-trichlorophenol in oak wood exposed to chlorinated tap water. It was demonstrated that under these conditions 2,4,6-trichlorophenol could be produced.

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May 2005