

INVESTIGATION ON THE MICROWAVE ENHANCED - DETOXIFICATION OF CHROMATE ABSORBED BY BIOMASS

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Traditional methods for chromate removal from contaminated waters involve filtration, flocculation, activated charcoal, ion exchange resins, reduction-precipitation and membrane separation. These methods are costly and can pose second pollution. Biomass absorption combined with microwave enhanced detoxification is a new and promising alternative process for chromate wastewater purification. Rice bran was employed as the absorption material. Domestic microwave oven with 2450 MHz was operated at 750 W for 4 min to detoxify the chromate to chromium sesquioxide. Results indicated that 98.9 % of chromate was reduced at the mass ratio of chromate to biomass 4. The biomass became to activate charcoal and there was flammable gas including CO, CH_x, tar, etc.