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**DEVELOPMENT OF CONVENIENT ANALYTICAL METHOD
OF 4-TERT-OCTYLPHENOL**

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4-tert-octylphenol (OP) is surfactant additive widely used in the manufacture of a variety of detergents and plastic products, a U.S. Environmental Protection Agency (EPA) classified endocrine disruptor. The purpose of this study was developed the analytical method of OP and determined toxicokinetics parameters after i.v. and oral administration in SD rats plasma concentration of OP using HPLC. After i.v. administration (1, 5, 10 mg/kg), final elimination half life ($t_{1/2\gamma}$) was 882.0, 225.5, 295.3 min respectively and there were no significant alterations in the systemic clearance rate and the volume of distribution (Vd) as a function of the administered dose. After oral administration (50, 100, 200 mg/kg), OP concentration vs. time curve showed peculiarities, which indicate extensive enterohepatic recirculation. The bioavailability of oral OP was obviously reduced by first-pass effect and the value was 37.8-46.4 %. After 200 mg/kg oral administration, the highest OP level was found in the fat, followed by liver, kidney, testes. Urinary clearance was 0.48, 1.64, 3.08 mL/hr/kg respectively at 50, 100 and 200 mg/kg doses and OP was excreted unchanged in urine only in small amounts ($F_e < 0.015$ %).

Keyword : 4-tert-Octylphenol(OP), Toxicokinetic, Endocrine disruptor