

## Comparative Potencies of Aroclors 1232, 1242, 1248, 1254, and 1260 in Male Wistar Rats—Assessment of the Toxic Equivalency Factor (TEF) Approach for Polychlorinated Biphenyls (PCBs)

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Immature male Wistar rats were treated with several different doses of the commercial polychlorinated biphenyls (PCBs) Aroclors 1232, 1242, 1248, 1254, and 1260 (10, 40, 160, 480, and 2000 mg/kg) and the effects on body weight gain, thymic atrophy, and the induction of hepatic microsomal aryl hydrocarbon hydroxylase (AHH), ethoxyresorufin *O*-deethylase (EROD), and pentoxyresorufin *O*-deethylase (PROD) activities were measured 14 days after treatment. A significant inhibition in body weight gain was observed only in rats treated with high doses of Aroclors 1232 and 1248 and thymic atrophy was not observed for any of the Aroclors. All the Aroclors caused a dose-dependent increase in hepatic microsomal AHH, EROD, and PROD activities. The corresponding ED50 values for the induction of AHH-EROD activities varied from 51 to 678 mg/kg. Aroclor 1260 was the least active inducer of the P4501A1-mediated enzyme activities. In contrast, Aroclor 1260 was a potent inducer of PROD activity (ED50 = 37 mg/kg), but Aroclors 1232, 1242, 1248, and 1254 did not induce 50% of the maximal response at the highest dose used in this experiment (2000 mg/kg). Previous studies have quantitated the levels of those PCB congeners which induce AHH or EROD activities in Aroclors 1232, 1242, 1254, and 1260 and their potencies or toxic equivalency factors (TEFs) relative to that of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) have also been estimated or experimentally determined. Using highly conservative TEF values it was demonstrated that the calculated ED50s for the Aroclors as inducers of AHH and EROD activity were significantly lower than the observed ED50 values. However, if the TEFs were derived directly from the relative potencies of the PCBs (compared to 2,3,7,8-TCDD) as inducers of AHH and EROD activity, then there was a good correspondence between the observed and calculated ED50 values.