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Assessment on combined repeated dose and reproduction/developmental toxicity of benzoyl peroxide

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This study was carried out by an Korean GLP laboratory to assess the combined repeated dose, reproduction and developmental toxicity of benzoyl peroxide for OECD SIDS(Screening Information Data Set) program. Male and female Sprague Dawley rats were exposed to benzoyl peroxide at levels of 0, 250, 500 and 1,000 mg/kg/day for 29 days for male and for 41-51 days for female. No deaths were found in all animals including control groups during exposure period. No hematological effect attributable to benzoyl peroxide was observed in all treated groups. Significant dose-related decrease in the weight of testes and epididymis were observed in males treated with 1,000 mg/kg. In females at 1,000 mg/kg, slight effects in uterus such as epithelial vacuolation or hyperplasia were observed. No treatment-related changes in precoital time and rate of copulation, fertility and gestation were noted in any benzoyl peroxide treated groups. There was no evidence of teratogenic effect of benzoyl peroxide, but body weight gain of pups at dose of 1,000 mg/kg/day was significantly decreased. NOAEL for combined repeated dose and reproduction/developmental toxicity was 500 mg/kg/day.

Keyword : Benzoyl peroxide, repeated dose, reproduction toxicity, developmental toxicity, OECD SIDS program