PG-18

A Cancer Risk Assessment of Di(2-ethylhexyl)Phthalate in Powdered Milk and Cow Milk

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This study is conducted about risk assessment for infant exposure on di(2-ethylhexyl)phthalate (DEHP) in powdered milk and lifetime exposure on DEHP in cow milk using methodology in EPA's new guideline on carcinogenic risk assessment.

Estimated cancer risk(using cancer potency : 1.4E-2/(mg/kg/day) of infant exposure on powdered milk is 9.71E-6, of lifetime exposure on powdered milk and cow milk is 2.85E-5. Estimated MOE(using selected NOEL 20mg/kg/day from David et al.(1997) of infant exposure on powdered milk is 34022, of lifetime exposure on powdered milk and cow milk in 12002. Total cancer risk and total MOE is aggregated each cancer risk and MOE in exposure of cow milk and powdered milk. The 95th percentile (upper) value of total cancer risk is 5.53E-5 and the 5th percentile (lower) total MOE is 5097. This value is estimated by Monte-Carlo simulation using Crystal Ball. A commonly used default MOE of 100 is often considered acceptable. This is based on a 10x uncertainty factor to account for the possibility that humans are more sensitivity than the test species to the biochemical/toxicological end point used and an additional 10x factor to account for possible differences in sensitivity within the human population.