HEXACHLOROBENZENE (Group 2B)

A. Evidence for carcinogenicity to humans (*inadequate*)

No report of a direct association between hexachlorobenzene and human cancer is available. Hepatocellular carcinoma has been associated with porphyria[1-5]. However, although abnormal porphyrin metabolism persisted at least 20 years after an epidemic of porphyria cutanea tarda in Turkey, caused by consumption of grain treated with hexachlorobenzene[6], no excess cancer occurrence has been reported in this population 25 years after the accident[7].

B. Evidence for carcinogenicity to animals (*sufficient*)

Hexachlorobenzene was tested by oral administration in one experiment in mice and in one in hamsters. In mice, it produced liver-cell tumours in animals of each sex; in hamsters of each sex, it produced hepatomas, liver haemangioendotheliomas and thyroid adenomas. An experiment involving intraperitoneal administration in mice was considered to be inadequate[6]. In a study in rats fed hexachlorobenzene in the diet, hepatomas, hepatocellular carcinomas, bile-duct adenomas and renal-cell adenomas were observed[8]. In a two-generation feeding study in rats with lower dose levels, increased incidences of parathyroid adenomas and adrenal phaeochromocytomas were observed in animals of each sex and liver neoplastic nodules in females of the F_1 generation[9]. After 90 weeks' feeding of hexachlorobenzene to rats, 100% of surviving females and only 16% of males had developed liver tumours[10].

C. Other relevant data

No data were available on the genetic and related effects of hexachlorobenzene in humans. It did not induce dominant lethal mutations in rats treated *in vivo*. It did not induce chromosomal aberrations in cultured Chinese hamster cells or mutation in bacteria[11].

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