CREOSOTES (Group 2A)

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

In a number of case reports, the development of skin cancer in workers exposed to creosotes is described. One study involved a review of 3753 cases of cutaneous epithelioma

from 1920 to 1945 and showed that 35 cases (12 of which were of the scrotum) had had exposure to creosotes. Most cases occurred in workers handling creosotes or creosoted wood during timber treatment. A mortality analysis of workers in many occupations indicated an increased risk of scrotal cancer for creosote-exposed brickmakers[1].

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

Creosotes, creosote oils and anthracene oils were tested for carcinogenicity in mice by skin application, producing skin tumours, including carcinomas. One of the creosotes also produced lung tumours in mice after skin application[1].

C. Other relevant data

No occupationally related increase in mutagenicity was detected in the urine of creosote workers, but urine from rats administered creosote was mutagenic to *Salmonella typhimurium* in the presence of an exogenous metabolic system[2].

Creosote enhanced transformation of Syrian hamster embryo cells initiated with benzo[*a*]pyrene in a two-stage transformation assay, and creosote and a coal-tar/creosote mixture gave positive results in the mouse lymphoma L5178Y system. Creosote, vapour emitted from creosote at 37°C and a coal-tar/creosote mixture were mutagenic to *S. typhimurium* in the presence of an exogenous metabolic system[2].

References

[1] *IARC Monographs, 35*, 83-159, 1985

[2] *IARC Monographs, Suppl. 6*, 188, 1987