

N-PHENYL-2-NAPHTHYLAMINE (Group 3)

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

No excess of bladder tumours was found among men in a rubber processing factory with known exposure to *N*-phenyl-2-naphthylamine (which contained small amounts of 2-naphthylamine [see p. 261]); however, a study of rubber workers who were not exposed to 2-naphthylamine did show an increased incidence of bladder tumours. In the latter study, the men were exposed to several compounds, which probably included *N*-phenyl-2-naphthylamine¹.

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

N-Phenyl-2-naphthylamine was tested for carcinogenicity by oral administration in mice, rats, hamsters and dogs. No carcinogenicity was reported in most experiments¹⁻⁴. In one experiment, the total tumour incidence and the incidence of hepatocellular tumours were increased in male mice of one strain¹. In another experiment, two rare kidney tumours were seen in female mice². Subcutaneous administration to mice increased the total tumour incidence¹ and the incidences of lung⁵ and liver neoplasms¹. Repeated subcutaneous injection after previous unilateral nephrectomy in mice resulted in a significant increase in the total tumour incidence and in the incidences of haemangiosarcomas of the kidney and of carcinomas of the lung^{6,7}. Following exposure of mice by inhalation in one study, lung carcinomas were reported⁸.

C. Other relevant data

There is some evidence from one study of 19 human volunteers that up to 0.03% of a single 10-mg dose of *N*-phenyl-2-naphthylamine is converted to 2-naphthylamine. Similarly, the urine of workers exposed to *N*-phenyl-2-naphthylamine was found to contain 2-naphthylamine, indicating that *N*-phenyl-2-naphthylamine is dephenylated in the human body¹. No data were available on the genetic effects of *N*-phenyl-2-naphthylamine in humans. It was reported not to be mutagenic to bacteria⁹.

References

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- ⁹IARC Monographs, Suppl. 6, 461-462, 1987