ACROLEIN (Group 3)

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

Exposure to traces of acrolein was reported to have occurred in a chemical plant in the German Democratic Republic, where the main exposures were to acetaldol, acetaldehyde (see p. 77), butyraldehyde and crotonaldehyde. Nine cancer cases occurred in the plant; the relative frequencies of the tumours observed were reported to be higher than those expected in the German Democratic Republic. Acrolein was a relatively minor component of the exposure[1]. Because of the mixed exposure pattern, the small number of cases and the poorly defined exposed population, this study is inconclusive.

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

Acrolein was tested in mice by skin application and in hamsters by inhalation. The study in mice was inadequate for an evaluation of carcinogenicity. No carcinogenic effect was detected in hamsters[1].

C. Other relevant data

No data were available on the genetic and related effects of acrolein in humans. It did not induce dominant lethal mutations in mice. It induced sister chromatid exchanges in Chinese hamster ovary cells *in vitro*. In yeast, it did not cause DNA cross-links or strand breaks and was not mutagenic. Acrolein was mutagenic to bacteria[2].

References

[1]*IARC Monographs, 36,* 133-161, 1985

[2]*IARC Monographs, Suppl. 6,* 24-26, 1987