

## CHLORODIFLUOROMETHANE (Group 3)

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

A small study of 539 refrigeration workers exposed to a mixture of chlorofluorocarbons, including chlorodifluoromethane, for at least six months with up to 30 years' follow up was uninformative with regard to the carcinogenic hazard of this chemical (6 deaths due to cancer, 5.7 expected; 2 deaths from lung cancer, 1.0 expected)<sup>1</sup>.

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

Chlorodifluoromethane was tested for carcinogenicity in rats by oral administration and in mice and rats by inhalation. Oral administration to rats yielded no increase in tumour incidence in one study. A study by inhalation in mice gave inconclusive results for males and negative results for females. One study by inhalation in rats was inadequate, while, in another, males exposed to the highest concentration had a marginal increase in the incidence of subcutaneous fibrosarcomas and Zymbal-gland tumours and negative results were obtained for females<sup>1</sup>.

**C. Other relevant data**

No data were available on the genetic and related effects of chlorodifluoromethane in humans. It did not induce dominant lethal mutations in rats or chromosomal aberrations in bone-marrow cells of mice treated *in vivo*. It did not induce unscheduled DNA synthesis in human cells *in vitro* or mutation in cultured Chinese hamster V79 cells. It did not induce mutation or mitotic gene conversion in yeast, either after direct exposure or in a host-mediated assay. It was mutagenic to plants and bacteria<sup>2</sup>.

**References**

<sup>1</sup>*IARC Monographs*, 41, 237-252, 1986

<sup>2</sup>*IARC Monographs, Suppl. 6*, 150-151, 1987