SUMMARY OF THE TWO-YEAR INHALATION AND GENETIC TOXICOLOGY STUDIES OF CHLOROETHANE

Male F344/N Rats	Female F344/N Rats	Male B6C3F$_1$ Mice	Female B6C3F$_1$ Mice
Exposure concentrations			
0 or 15,000 ppm chloroethane in air, 6 h/d, 5 d/wk	0 or 15,000 ppm chloroethane in air, 6 h/d, 5 d/wk	0 or 15,000 ppm chloroethane in air, 6 h/d, 5 d/wk	0 or 15,000 ppm chloroethane in air, 6 h/d, 5 d/wk
Body weights in the 2-year study			
Lower in exposed group	Lower in exposed group	Higher in exposed group	Similar in exposed and control groups
Survival rates in the 2-year study			
16/50; 8/50	31/50; 22/50	28/50; 11/50	32/50; 2/50
Nonneoplastic effects			
None	None	None	None
Neoplastic effects			
Skin trichoepitheliomas, sebaceous gland adenomas, or basal cell carcinomas (combined) (0/50; 5/50)	Astrocytomas of the brain (0/50; 3/50)	None	Endometrial uterine carcinomas (0/49; 43/50)
Level of evidence of carcinogenic activity			
Equivocal evidence	Equivocal evidence	Inadequate study	Clear evidence
Other considerations			
	Gliosis (0/50; 1/50)	Reduced survival; alveolar/bronchiolar adenomas or carcinomas (combined) (5/50; 10/48)	Hepatocellular adenomas or carcinomas (combined) (3/49; 8/48)
Genetic toxicology			
	Salmonella (gene mutation) Positive with and without S9		

NATIONAL TOXICOLOGY PROGRAM Technical Report Series No. 346 Toxicology and Carcinogenesis Studies of Chloroethane (Ethyl Chloride) in F344/N Rats and B6C3F1 Mice (Inhalation Studies) (CAS NO. 75-00-3) **より抜粋**

Conclusions:

Under the conditions of these 2-year inhalation studies, there was equivocal evidence of carcinogenic activity of chloroethane for male F344/N rats, as indicated by benign and malignant epithelial neoplasms of the skin.

For female F344/N rats, there was equivocal evidence of carcinogenic activity, as indicated by three uncommon malignant astrocytomas of the brain in the exposed group.

The study of male B6C3F1 mice was considered to be an inadequate study of carcinogenicity because of reduced survival in the exposed group. However, there was an increased incidence of alveolar/bronchiolar neoplasms of the lung.

There was clear evidence of carcinogenic activity for female B6C3F1 mice, as indicated by carcinomas of the uterus. A marginally increased incidence of hepatocellular neoplasms was observed in the exposed group.