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Supplemental Material

Human Health Effects of Tetrachloroethylene: Key Findings and Scientific Issues

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Table of Contents **Page**

Table S1. Tumor incidence in adult rats exposed to tetrachloroethylene.

Bioassay	Sex	Administered Exposure	Mononuclear cell leukemia[a]	Kidney adenoma or carcinoma	Testis interstitial cell tumor	Brain glioma
NTP (1986) F344/N rats; inhalation: 6 h/d, 5 d/wk, 104 wk	Males	0	28/50[b] (56)[c]	1/49 (2)[c]	35/50 (70)[c]	1/50 (2)[c]
		200 ppm	37/48 (77)	3/47 (6)	39/47 (83)	0/48 (0)
		400 ppm	37/50 (74)	4/50 (8)	41/50 (82)	4/50 (8)
	Females	0	18/50 (36)[c]	0/50 (0)	N/A	1/50 (2)
		200 ppm	30/50 (60)	0/49 (0)		0/50 (0
		400 ppm	29/50 (58)	0/50 (0)		2/50 (4)
JISA (1993) F344/DuCrj rats; inhalation: 6 h/d, 5 d/wk, 104 wk	Males	0	11/50 (22)[c]	1/50 (2)	47/50 (94)	2/50 (4)
		50 ppm	14/50 (28)	2/50 (4)	46/50 (92)	0/50 (0)
		200 ppm	22/50 (44)	1/50 (2)	45/50 (90)	0/50 (0)
		600 ppm	27/50 (54)	2/50 (4)	48/50 (96)	0/50 (0)
	Females	0	10/50 (20)[c]	1/50 (2)	N/A	0/50 (0)
		50 ppm	17/50 (34)	0/50 (0)		0/50 (0)
		200 ppm	16/50 (32)	0/50 (0)		1/50 (2)
		600 ppm	19/50 (38)	1/50 (2)		0/50 (0)

[a]Reflects the number of animals with MCL reported under "multiple organs," spleen, or liver. [b]Fractions represent survival-adjusted incidences. [c]$p \leq 0.05$:Poly-3 trend test (Portier and Bailer, 1989; Bailer and Piegorsch, 1997).

Table S2. Tumor incidence in adult mice exposed to tetrachloroethylene.

Bioassay	Sex	Administered exposure	Total oxidative metabolism, liver[a]	Hepatocellular adenomas or carcinomas	Hemangiomas or hemangio-sarcomas[b]
NCI (1977)[c] $B6C3F_1$ mice Gavage: 5d/wk, 78 wk	Males	Vehicle	0	2/18(11)[d]	None reported[e]
		536 mg/kg-day	35.3	32/47 (67)	
		1,072 mg/kg-day	67.4	27/44 (60)	
	Females	Vehicle	0	0/20 (0)[c]	None reported
		386 mg/kg-day	23.7	19/48 (40)	
		772 mg/kg-day	46.0	19/48 (40)	
NTP (1986) $B6C3F_1$ mice Inhalation: 6 h/d, 5 d/wk, 104 wk	Males	0 ppm	0	17/49 (35)[c]	1/49 (2)
		100 ppm	13.2	31/47 (66)	0/49 (0)
		200 ppm	26.0	41/50 (82)	0/50 (0)
	Females	0 ppm	0	4/45 (9)[c]	0/48 (0)
		100 ppm	12.8	17/42 (40)	3/50 (6)
		200 ppm	25.3	38/48 (76)	0/50 (0)
JISA (1993) Crj:BDF1 mice Inhalation: 6 h/d, 5 d/wk, 104 wk	Males	0 ppm	0	13/46(28)[c]	1/46 (2)[c]
		10 ppm	2.3	21/49 (43)	1/49 (2)
		50 ppm	8.3	19/48 (40)	5/48 (10)
		250 ppm	33.6	40/49 (82)	5/49 (10)
	Females	0 ppm	0	3/50 (6)[c]	1/50 (2)
		10 ppm	2.1	3/47 (6)	0/47 (0)
		50 ppm	7.8	7/48 (15)	2/49 (4)
		250 ppm	31.6	33/49 (67)	3/50 (6)

[a]In $mg/kg^{3/4}$-day. [b]Reported as hemangioendotheliomas by JISA (1993). The term has been updated to hemangioma (benign) or hemangiosarcoma (malignant). [c]Initial gavage doses of 450 or 900 mg/kg-day (males) and 300 or 600 mg/kg-day (females) were adjusted several times during the course of the study; listed exposures are TWA daily doses through Week 78. Surviving animals were observed up to study termination in Week 90. [d]$p < 0.05$: Cochran-Armitage test for trend (NCI), Life atable test (NTP, JISA). [e]None reported: Individual animal data were not available, and summary data were not reported for this tumor type.

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