

TABLE 8-1

Cancer Data Sheet for Derivation of q_1^*

Compound: Chloroethene

Reference: Maltoni et al., 1980, 1981

Species, Strain, Sex: Rat, Sprague-Dawley, M,F combined

Body weight: 0.35 kg (assumed)

Length of exposure (le) = 365 days

Length of experiment (Le) = up to 1029 days

Lifespan of animal (L) = 1029 days

Tumor site and type: Liver angiosarcoma

Route, vehicle: Inhalation, air

Experimental Doses or Exposures			Transformed Dose ^a (mg/kg/day)	Incidence	
ppm	BTIS	mg/m ³		No. Responding/No. Tested or Examined	
5	BTIS				
10	BTIS	25.6	0.344	1/119	0.0084 5.4
25	BTIS	63.9	0.860	5/120	0.042 4.2
50	BT1	127.8	1.719	1/60	0.0167 1.6
100	BT2	255.6	3.438	1/120	0.0083 0.8
150	BT2	383.4	5.158	6/119	0.0504 5.0
200		511.2	6.878	12/120	0.1000 10.0
250		639.0	8.596	3/59	0.0508 5.1
500		1278.1	17.19	6/60	0.1000 10.0
2500		6390.5	86.97	13/60	0.2167 21.7
6000		15337.4	206.3	13/59	0.2203 22.0
10,000		25562.3	343.9	7/60	0.1167 11.7
30,000		76687.1	1031.6	18/60	0.3000 30.0
Controls			0.0	0/363	

Unadjusted q_1^* from study = 5.0381387×10^{-2} (mg/kg/day)^{-1b}
 Human q_1^* = 2.95×10^{-2} (mg/kg/day)⁻¹

$$a_0 = 0.223 \text{ m}^3/\text{day} \times 4/24 \times 5/7 \times [C] \times 0.5 + 0.35 \times 365/1029$$

^bThe unadjusted q_1^* was derived from the dose-response data up to doses of 1.719 mg/kg/day. The goodness of fit hypothesis was rejected for the data at ≥ 3.438 mg/kg/day.

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Tumor site and type: Liver angiosarcoma

Route, vehicle: Inhalation, air

Experimental Doses or ExposuresTransformed Dose^a
(mg/kg/day)Incidence
No. Responding/No.
Tested or Examined

ppm	BTIS	mg/m ³			
5	BTIS				
10	BTIS	25.6	0.344	1/119	0.008
25	BTIS	63.9	0.860	5/120	0.042
50	BT1	127.8	1.719	1/60	0.017
100	BT2	255.6	3.438	1/120	0.008
150	BT2	383.4	5.158	6/119	0.050
200		511.2	6.878	12/120	0.100
250		639.0	8.596	3/59	0.051
500		1278.1	17.19	6/60	0.100
2500		6390.5	86.97	13/60	0.217
6000		15337.4	206.3	13/59	0.220
10,000		25562.3	343.9	7/60	0.117
30,000		76687.1	1031.6	18/60	0.300
	Controls		0.0	0/363	

Unadjusted q_1^* from study = 5.0381387×10^{-2} (mg/kg/day)^{-1b}
 Human q_1^* = 2.95×10^{-2} (mg/kg/day)⁻¹

$$a_0 = 0.223 \text{ m}^3/\text{day} \times 4/24 \times 5/7 \times [C] \times 0.5 \times 0.35 \times 365/1029$$

^bThe unadjusted q_1^* was derived from the dose-response data up to doses of 1.719 mg/kg/day. The goodness of fit hypothesis was rejected for the data at ≥ 3.438 mg/kg/day.