Supporting Information

Cancer Risk from Incidental Ingestion Exposures to PAHs Associated with Coal-Tar-Sealed Pavement

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Table S1. Mass of house dust (<0.5 mm) collected, area sampled, surface dust loading, and benzo[*a*]pyrene equivalent (BaPEQ) loading for 18 apartments in the Austin, Tex., area.

Table S2. Exposure assumptions for deterministic and probabilistic risk calculations.

Table S3. Theoretical yearly doses of benzo[*a*]pyrene equivalents under central tendency and reasonable maximum exposure conditions.

Table S1. Mass of house dust (<0.5 mm) collected, area sampled, surface dust loading, and benzo[*a*]pyrene equivalent (BaPEQ) loading for 18 apartments in the Austin, Tex., area.

[Sample collection methods and polycyclic aromatic hydrocarbon concentration data used to compute BaPEQ are detailed in [17]. CSA, coal-tar-sealed asphalt; UA, unsealed asphalt]

Site	Mass (g)	Area sampled (m^2)	Dust loading ($\mu g/cm^2$)	BaPEQ loading ($\mu g/m^2$)
CSA-1	19.4	2.65	731	33.2
CSA-2	2.06	2.66	77.4	15.6
CSA-3	2.84	5.81	48.9	7.17
CSA-4	16.2	3.01	540	30.6
CSA-5	22.6	3.65	620	123
CSA-6	13.5	2.38	568	9.56
CSA-7	2.09	6.00	34.9	0.80
CSA-8	6.90	1.98	348	34.9
CSA-9	4.81	2.29	210	12.8
CSA-10	5.57	1.61	346	29.5
CSA-11	1.66	3.40	48.8	15.7
UA-1	3.44	5.24	65.6	1.22
UA-2	3.37	12.8	26.4	0.52
UA-3	2.55	5.13	49.7	1.39
UA-4	35.4	4.00	884	0.72
UA-5	5.94	8.22	72.3	0.26
UA-6	4.64	4.31	108	0.33
UA-7	5.16	2.72	190	0.63

Table S2. Exposure assumptions for deterministic and probabilistic risk calculations.

Parameter		Deterministic	Probabilistic		
			Mean	Standard deviation	Distribution
Concentration of BaPEQ in settled house dust (μg/g) (Mahler et al. 2010)					
	Adjacent to coal tar sealed asphalt parking lots	8.1	11.4	9.41	Lognormal
	Adjacent to unsealed asphalt parking lots	0.608	1.10	1.08	Lognormal
Concentration of BaPEQ in soil (μg/g) (Van Metre et al. 2009; UNHSC et al. 2010)					
	Coal tar sealed asphalt parking lots	12.4	15.8	11.9	Lognormal
	Unsealed asphalt parking lots	0.194	0.423	0.523	Lognormal
Body weight (kg) (Portier et al. 2007)	Age				
	0-1	9.26	9.26	1.52	Normal
	1-2	11.4	11.4	1.84	Normal
	2-3	13.5	13.5	1.95	Normal
	3-4	15.9	15.9	2.23	Normal
	4-5	18.4	18.4	3.25	Normal
	5-6	20.6	20.6	4.91	Normal
	6-7	22.5	22.5	4.63	Normal
	7-8	27.4	27.4	6.52	Normal
	8-9	31.3	31.3	7.25	Normal
	9-10	36.2	36.2	8.46	Normal
	10-11	39.5	39.5	10.2	Normal
	11-12	44.6	44.6	11.6	Normal
	12-13	50.3	50.3	11.9	Normal
	13-14	56.9	56.9	14.6	Normal
	14-15	61.4	61.4	13.7	Normal
	15-16	65.9	65.9	14.4	Normal
	16-17	68,0	68	17.1	Normal
	17-18	66.6	66.6	13.2	Normal
	18-70	79.7	79.7	20.2	Normal

Table S2, continued. Exposure assumptions for deterministic and probabilistic risk calculations.

Parameter	Deterministic		Probabilistic		
	CTE	RME	Mean	Standard deviation	Distribution
Ingestion rate of settled house dust (mg/day) (Ozkaynak et al. 2010; USEPA 1997)					
Children 0-<6	27	100	26.6	39.3	Lognormal
Children and adults 6-70	13	27	13.3	19.6	Lognormal
Ingestion rate of soil (USEPA 1997, 2008; Van Holderbeke et al. 2008)					
Children 0-<13	50	400	61	80	Lognormal
Children and adults 13-70	50	100	46	60	Lognormal

CTE: Central tendency exposure

RME: Reasonable maximum exposure

Table S3. Theoretical yearly doses (ng/kg/day) of benzo[*a*]pyrene equivalents under central tendency and reasonable maximum exposure conditions

Age	CTE: Central Tendency Exposures (ng/kg/day)						RME: Reasonable Maximum Exposures (ng/kg/day)					
	Dust alone		Soil alone		Dust + Soil		Dust alone		Soil alone		Dust + Soil	
	UA	CSA	UA	CSA	UA	CSA	UA	CSA	UA	CSA	UA	CSA
0-1	1.8	24	1.1	67	2.8	91	6.6	87	8.4	540	15	620
1-2	1.4	19	0.85	54	2.3	74	5.3	71	6.8	440	12	510
2-3	1.2	16	0.72	46	1.9	62	4.5	60	5.7	370	10	430
3-4	1.0	14	0.61	39	1.6	53	3.8	51	4.9	310	8.7	360
4-5	0.89	12	0.53	34	1.4	46	3.3	44	4.2	269	7.5	310
5-6	0.80	11	0.47	30	1.3	41	3.0	39	3.8	240	6.7	280
6-7	0.35	4.7	0.43	28	0.78	32	0.73	9.7	3.4	220	4.1	230
7-8	0.29	3.8	0.35	23	0.64	26	0.60	8.0	2.8	180	3.4	190
8-9	0.25	3.4	0.31	20	0.56	23	0.53	7.0	2.5	160	3.0	170
9-10	0.22	2.9	0.27	17	0.49	20	0.45	6.1	2.2	140	2.6	140
10-11	0.20	2.7	0.25	16	0.45	18	0.42	5.5	2.0	130	2.4	130
11-12	0.18	2.4	0.22	14	0.39	16	0.37	4.9	1.7	110	2.1	120
12-13	0.16	2.2	0.19	12	0.35	14	0.32	4.3	1.5	100	1.9	100
13-14	0.14	1.9	0.17	11	0.31	13	0.28	3.8	0.34	22	0.63	26
14-15	0.13	1.8	0.16	10	0.29	12	0.26	3.5	0.32	20	0.58	24
15-16	0.12	1.6	0.15	9.4	0.27	11	0.25	3.3	0.29	19	0.54	22
16-17	0.12	1.6	0.14	9.1	0.26	11	0.24	3.2	0.29	18	0.52	21
17-18	0.12	1.6	0.15	9.3	0.27	11	0.24	3.2	0.29	19	0.53	22
18-70	0.10	1.4	0.12	7.8	0.22	9.1	0.20	2.7	0.24	16	0.45	18