Table S1. Definition and value of health risk assessment parameters.

Items	Parameter	Definition	Unit	Value	Data Sources
Heavy metal concentration	C	Concentration of heavy metal in atmospheric depositions	mg/kg	95% UCL [1]	this research
Eating pathway	Ing R	Ingestion rate by hand–mouth	mg/d	200 (C) 100 (A)	[21,32,35–37]
Respiration pathway	Inh R	Inhale rate	m^3/d	7.63 (C) 20 (A)	[21,25,32]
	PEF	Particle emission factor	m^3/kg	1.36×10^9	[21,32,35–37]
Skin absorption pathway	SA	Skin area	cm^2	1150 (C) 2140 (A)	[32,35–37]
	SL	Sticky limit	mg/cm^2	0.20 (C) 0.07 (A)	[21,25,32]
	ABS	Absorption factor of skin		0.001	[21,25,32,35–37]
Exposure behavior parameter	EF	Exposure frequency	d/a	180	[32,35–37]
	ED	Exposure duration	a	6 (C) 24 (A)	[21,25,32,35–37]
	BW	Body weight	kg	15 (C) 70 (A)	[21,25,32,35–37]
	AT	Average exposure time	d	ED × 365 (non-carcinogen), 70 × 365 (carcinogen)	[21,25,32,35–37]
	CF	Conversion factor		1×10^{-6}	[32,35–37]

C–children, A–adults. [1] 95% confidence limit of heavy metal concentration.

Table S2. Analysis results for the Pb isotopes and pollution sources.

Tape	Number	$^{206}Pb/^{207}Pb$	$^{206}Pb/^{204}Pb$	$^{207}Pb/^{204}Pb$	$^{208}Pb/^{204}Pb$
Samples	S-1	1.1581	18.097	15.623	38.271
	S-3	1.1582	17.990	15.531	38.022
	S-9	1.1618	18.012	15.503	37.978
	S-14	1.1505	17.871	15.536	37.931
	S-22	1.1343	17.569	15.489	37.584
	S-28	1.1577	17.995	15.544	38.045
	S-37	1.1566	17.973	15.537	38.005
	S-43	1.1554	17.938	15.526	37.946
	S-50	1.1548	17.905	15.504	37.876
Traffic	T-1	1.1563	17.968	15.539	37.993
	T-2	1.1576	17.965	15.519	37.95
	T-3	1.1544	17.918	15.522	37.917
Building	B-1	1.1979	18.641	15.561	38.548
	B-2	1.1428	17.639	15.434	37.639
	B-3	1.1475	17.781	15.495	37.797
Power plants	C-1	1.1671	18.059	15.473	38.055
	C-2	1.1671	18.131	15.535	38.214
	C-3	1.1674	18.058	15.549	37.992
Sand	S-1	1.1978	18.647	15.568	38.530
	S-2	1.1726	18.210	15.529	38.113
	S-3	1.1711	18.163	15.511	38.004