

Supplementary: The Atmospheric Pollution Characteristics and Health Risk Assessment of Perfluorohexane Sulfonic Acid in Beijing

Table S1. Some abbreviations that were used in this paper.

Abbreviations	Unabbreviated Form
PFHxS	Perfluorohexane sulfonic acid
PFASs	Per- and polyfluoroalkyl compounds
PFOS	Perfluorooctane sulfonic acid
PFHxSF	Perfluorohexane sulfonyl fluoride
PFOSF	Perfluorooctane sulfonyl fluoride
POPs	Persistent organic pollutants
ESI	Electrospray ionization source
CV	Cone voltage
CE	Collision energy
RT	Retention time
MDLs	Method detection limits
RSD	Relative standard deviation
POPRC	Persistent Organic Pollutants Review Committee

Table S2. Health risk assessment parameters.

Parameter	Abbreviation	Children (6–17 yrs)	Adults	References
Average time (d)	AT	365 × ED	365 × ED	[37]
Inhalation rate (m ³ /d)	IR	10.1	15.7	[44,45]
Exposure duration (yr)	ED	72	72	[46]
Exposure frequency (d/yr)	EF	350	350	[47]
Body weight (kg)	BW	19.2	61.8	[48]
Exposed skin area (cm ²)	SA	2800	5700	[49]
Skin adherence factor (mg/ (m ² d))	AF	0.2	0.07	[49]
Conversion factor (kg/mg)	CF	10 ⁻⁶	10 ⁻⁶	[49]
Dermal adsorption fraction	ABF	0.001	0.001	[50]
Ingestion rate	SRI	200	100	[50]

Table S3. Atmospheric PFHxS concentrations reported by publications.

Time	Location	Concentrations (pg/m ³)	References
2021	Beijing, China	Gas 0.625–1.875, Particle 0.625–1.875	This study
2019	Xiamen, China	Gas 0.05–0.16, Particle ND-0.17	[22]
2018	Jiangsu, China	Particle ND-0.043	[21]
2017	China	ND-13.2	[51]
2016	Bohai sea Yellow sea	Gas ND-0.26, Particle 1.2–2.6	[18]

2015–2016	Mexico, Costa Rica, Colombia, Brazil, Bolivia, Argentina, Chile	ND-2.6	[52]
2015	China	ND-4.2	[46]
2014–2015	China	ND-4.39	[19]
2013–2015	Chaohu, China	0.09–1.91	[53]
2013–2014	Ontario, Canada	ND-3.33	[54]
2013	Czech Republic	ND-1.419	[55]
2012–2014	The National Atmospheric Observatory Košetice in Czech Republic	Gas 0.03, Particle ND-0.18	[20]
2011	Shenzhen, China	ND-1.2	[38]
2006–2015	Canada and Norway	ND-0.62	[56]

Table S4. Wet–dry deposition flux of PFHxS.

Time	Rainfall (mm)	Wet Deposition Flux (ng/m ² /month)	Dry Deposition Flux (ng/m ² /month)	Total Deposition flux (ng/m ² /month)
June	72	18.2	22.7	40.9
July	497	46.3	8.91	55.2
August	284	35.7	18.1	53.9
Septem ber	208	18.8	10.8	29.6
October	47	7.54	16.2	23.7
Novem ber	20	4.50	20.2	24.7

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