SUPPORTING INFORMATION

Volatile Per- and Polyfluoroalkyl Substances (PFAS) and other Semi-Volatile Organic Chemicals in Indoor Air of Fire Stations: The Influence of Gear Storage Conditions

Heather M. Stapleton[1*], Nicholas J. Herkert[1], Duncan Hay[1], Kate Hoffman[1], R. Bryan Ormond[2]

[1]Nicholas School of the Environment, Duke University, *Durham, NC, 27710, USA,*

[2]Wilson College of Textiles, N.C. State University, *Raleigh, NC, 27695 USA*

HMS: ORCID 0000-0002-9995-6517

NJH: ORCID 0000-0002-3286-8934

KH: ORCID 0000-0001-8029-7710

RBO: ORCID 0000-0001-9799-546X

Email Addresses:

HMS- heather.stapleton@duke.edu; NH-nicholas.herkert@duke.edu; DH-duncan.hay@duke.edu; KH- kate.hoffman@duke.edu; BO- rbormond@ncsu.edu;

[*]**Corresponding Author:**

Heather M. Stapleton, Ph.D.

Duke University, Nicholas School of the Environment

9 Circuit Drive, Box 90328

Durham, NC 27708

Phone: 919-613-8717

Email: heather.stapleton@duke.edu

Supplementary Figure S1. Photos highlighting examples of closed (left) and open (right) turnout gear storage locations that were sampled during the study.

Supplementary Figure S2. The potential mechanism by which side-chain fluorinated polymers (SFPs) could release neutral, volatile PFAS into indoor air in fire stations.

Supplementary Figure S3. Spearman correlation heat map displaying correlations among the SVOCs measured.

92 **Table S1.** Full list of volatile PFASs target analytes in the GC-HRMS panel, along with the internal standards and their recovery
93 during extraction.

Analytes	**Abbreviation**	**CAS #**	**Internal Standard**	**Internal Standard Recovery**
2-Perfluorohexyl ethanol	6:2 FTOH	647-42-7	13C (M + 2) 6:2 FTOH	78 ± 7
2-Perfluorooctyl ethanol	8:2 FTOH	678-39-7	13C (M + 2) 8:2 FTOH	65 ± 11
2-Perfluorodecyl ethanol	10:2 FTOH	865-86-1	13C (M + 2) 8:2 FTOH	
N-methyl perfluorobutane sulfonamido ethanol	MeFBSE	34454-97-2	d7-Et-FOSE	74 ± 12
N-methyl perfluorooctane sulfonamido ethanol	MeFOSE	24448-09-7	d7-Et-FOSE	74 ± 12
N-ethyl perfluooctane sulfonamido ethanol	EtFOSE	1691-99-2	d7-Et-FOSE	74 ± 12
Methyl-perfluoroctane sulfonamide	MeFOSA	31506-32-8	d-Et-FOSA	71 ± 14
Ethyl-perfluoroctane sulfonamide	EtFOSA	4151-50-2	d-Et-FOSA	71 ± 14
2-Perfluorohexyl ethyl acrylate	6:2 FTAC	17527-29-6	13C (M + 2) 6:2 FTOH	78 ± 7
2-Perfluorooctyl ethyl acrylate	8:2 FTAC	27905-45-9	13C (M + 2) 8:2 FTOH	65 ± 11
2-Perfluorodecyl ethyl acrylate	10:2 FTAC	17741-60-5	13C (M + 2) 8:2 FTOH	65 ± 11
2-Perfluorohexyl ethyl methacrylate	6:2 FTMAC	2144-53-8	13C (M + 2) 6:2 FTOH	78 ± 7
2-Perfluorooctyl ethyl methacrylate	8:2 FTMAC	1996-88-9	13C (M + 2) 8:2 FTOH	65 ± 11
4-Chlorobenzotrifluoride	PCBTF	98-56-6	13C (M + 2) 6:2 FTOH	78 ± 7

Table S2. Full list of SVOC target analytes in the GC-EI-HRMS panel, along with the internal standards and their recovery during extraction.

Analytes	Abbreviation	CAS #	Internal Standard	Internal Standard Recovery
Triethyl phosphate	TEP	78-40-0	d-TnBP	90 ± 3.9
Tri-iso-butyl-phosphate	TiBP	126-71-6	d-TnBP	90 ± 3.9
Triisopropyl phosphate	TiPP	513-02-0	d-TnBP	90 ± 3.9
Tri-m-cresyl phosphate	TmCP	563-04-2	13C TPhP	101 ± 6.6
Tri-n-butyl-phosphate	TnBP	126-73-8	d-TnBP	90 ± 3.9
Tri-o-cresyl phosphate	ToCP	78-30-8	13C TPhP	101 ± 6.6
Tri-p-cresyl phosphate	TpCP	78-32-0	13C TPhP	101 ± 6.6
Tripentyl phosphate	TPeP	2528-38-3	d-TnBP	90 ± 3.9
Triphenyl phosphate	TPhP	115-86-6	13C TPhP	101 ± 6.6
Tripropyl phosphate	TPrP	513-08-06	d-TnBP	90 ± 3.9
2-Ethylhexyl diphenyl phosphate	EHDPP	1241-94-7	13C TPhP	101 ± 6.6
Tris(2-ethylhexyl) phosphate	TEHP	78-42-2	13C TPhP	101 ± 6.6
Isodecyl diphenyl phosphate	isodecylPP	29761-21-5	13C TPhP	101 ± 6.6
Tri-(2-butoxyethyl)-phosphate	TBOEP	78-51-3	13C-TBOEP	78 ± 8.9
Tris (2-chloro-ethyl) phosphate	TCEP	115-96-8	dTCEP	101 ± 6.7
Tris (1-chloro-isopropyl) phosphate	TCPP	13674-84-5	d-TnBP	90 ± 3.9
Tris (2,4-dichloro-isopropyl)	TDCPP	13674-87-8	dTDCPP	82 ± 9.0

phosphate				
Tris(3,5-dimethyl phenyl) phosphate	TDMPP	9006-37-5	13C TPhP	101 ± 6.6
2-Isopropylphenyl diphenyl phosphate	2IPPDPP	64532-94-4	13C TPhP	101 ± 6.6
3-Isopropylphenyl diphenyl phosphate	3IPPDPP	69515-46-4	13C TPhP	101 ± 6.6
4-Isopropylphenyl diphenyl phosphate	4IPPDPP	55864-04-5	13C TPhP	101 ± 6.6
Bis(2-isopropylphenyl) phenyl phosphate	B2IPPPP	69500-29-4	13C TPhP	101 ± 6.6
Bis (3-isopropylphenyl) phenyl phosphate	B3IPPPP	69500-30-7	13C TPhP	101 ± 6.6
Bis (4-isopopylphenyl) phenyl phosphate	B4IPPPP	55864-07-8	13C TPhP	101 ± 6.6
2,4-Diisopropylphenyl diphenyl phosphate	24DIPPDPP	n.a.	13C TPhP	101 ± 6.6
Tris(3-isopropylphenyl) phosphate	T3IPPP	72668-27-0	13C TPhP	101 ± 6.6
Tris(4-isopropylphenyl) phosphate	T4IPPP	26967-76-0	13C TPhP	101 ± 6.6
Bis (2,4-diisopropylphenyl) phenyl phosphate	B24DIPPPP	n.a.	13C TPhP	101 ± 6.6
2-tert-butylphenyl diphenyl phosphate	2tBPDPP	83242-23-3	13C TPhP	101 ± 6.6

4-tert-butylphenyl diphenyl phosphate	4tBPDPP	981-40-8	13C TPhP	101 ± 6.6
bis(2-tert-butylphenyl) phenyl phosphate	B2tBPPP	65652-41-7	13C TPhP	101 ± 6.6
bis(4-tert-butylphenyl) phenyl phosphate	B4tBPPP	115-87-7	13C TPhP	101 ± 6.6
Tris(4-tert-butylphenyl) phosphate	T4tBPP	78-33-1	13C TPhP	101 ± 6.6
Dibenzofuran	Dibenzofuran	132-64-9	D10-acenaphthene	69 ± 5.5
3-Methylcholanthrene	3-Methylcholanthrene	56-49-5	D12-Benzo[a]pyrene	101 ± 16
7,12-Dimethylbenz(a)anthracene	7,12-Dimethylbenz(a)anthracene	57-97-6	D12-Benzo[a]pyrene	101 ± 16
Acenaphthylene	Acenaphthylene	208-96-8	D10-acenaphthene	69 ± 5.5
Acenapthene	Acenapthene	83-32-9	D10-acenaphthene	69 ± 5.5
Anthracene	Anthracene	120-12-7	D10-pyrene	88 ± 2.8
1,2 Benzanthracene (Benz[a]anthracene)	Benz[a]anthracene	56-55-3	D12-Benzo[a]pyrene	101 ± 16
Benzo(c)phenanthrene	Benzo(c)phenanthrene	195-19-7	F-BDE-69	85 ± 7.5
Benzo(g,h,i)perylene	Benzo(g,h,i)perylene	191-24-2	D12-Benzo[a]pyrene	101 ± 16
Benzo(j)fluoranthene	Benzo(j)fluoranthene	205-82-3	D12-Benzo[a]pyrene	101 ± 16
Benzo[a]pyrene	Benzo[a]pyrene	50-32-8	D12-Benzo[a]pyrene	101 ± 16
Benzo[b]fluoranthene	Benzo[b]fluoranthene	205-99-2	D12-Benzo[a]pyrene	101 ± 16
Benzo[e]pyrene	Benzo[e]pyrene	192-97-2	D12-Benzo[a]pyrene	101 ± 16

Benzo[k]fluoranthene	Benzo[k]fluoranthene	207-08-9	D12-Benzo[a]pyrene	101 ± 16
Chrysene	Chrysene	218-01-9	F-BDE-69	85 ± 7.5
Dibenz(a,h)anthracene	Dibenz(a,h)anthracene	53-70-3	D12-Benzo[a]pyrene	101 ± 16
Dibenz[a,h]pyrene	Dibenz[a,h]pyrene	189-64-0	D14-Dibenzo(a,i)pyrene	68 ± 10
Dibenz[a,i]pyrene	Dibenz[a,i]pyrene	189-55-9	D14-Dibenzo(a,i)pyrene	68 ± 10
Dibenz[a,l]pyrene	Dibenz[a,l]pyrene	191-30-0	D14-Dibenzo(a,i)pyrene	68 ± 10
Fluoranthene	Fluoranthene	206-44-0	D10-pyrene	88 ± 2.8
Fluorene	Fluorene	86-73-7	D10-phenanthrene	81 ± 15
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	193-39-5	D12-Benzo[a]pyrene	101 ± 16
Naphthalene	Naphthalene	91-20-3	D8-Napthalene	78 ± 5
Perylene	Perylene	198-55-0	D12-Benzo[a]pyrene	101 ± 16
Phenanthrene	Phenanthrene	85-01-8	D10-phenanthrene	81 ± 15
Pyrene	Pyrene	129-00-0	D10-pyrene	88 ± 2.8
3,3'-Dichlorobiphenyl	PCB 11	2050-67-1	13C-PCB-52	76 ± 7.0
2,4,4'-Trichlorobiphenyl	PCB28	7012-37-5	13C-PCB-52	76 ± 7.0
2,2',4,4'-Tetrachlorobiphenyl	PCB47	2437-79-8	13C-PCB-52	76 ± 7.0
2,2',4,6'-Tetrachlorobiphenyl	PCB51	68491-04-7	13C-PCB-52	76 ± 7.0
2,2',5,5'-Tetrachlorobiphenyl	PCB52	35693-99-3	13C-PCB-52	76 ± 7.0
2,3',4,5'-Tetrachlorobiphenyl	PCB68	73575-52-7	13C-PCB-52	76 ± 7.0

2,2',4,5,5'-Pentachlorobiphenyl	PCB101	37680-73-2	13C-PCB-52	76 ± 7.0
2,3',4,4',5-Pentachlorobiphenyl	PCB118	31508-00-6	13C-PCB-52	76 ± 7.0
2,2',3,4,4',5'-Hexachlorobiphenyl	PCB138	35065-28-2	13C-PCB-153	80 ± 6.7
2,2',4,4',5,5'-Hexachlorobiphenyl	PCB153	35065-27-1	13C-PCB-153	80 ± 6.7
2,2',3,4,4',5,5'-Heptachlorobiphenyl	PCB180	35065-29-3	13C-PCB-153	80 ± 6.7
2,2',3,4,4',5',6-Heptachlorobiphenyl	PCB183	52663-69-1	13C-PCB-153	80 ± 6.7
Atrazine	Atrazine	1912-24-9	D10-chlorpyrifos	100 ± 7.6
Azoxystrobin	Azoxystrobin	131860-33-8	13C-cis-permethrin	95 ± 12
chlorfenapyr	chlorfenapyr	122453-73-0	d-BBP	104 ± 5
Chlorpyrifos	Chlorpyrifos	2921-88-2	D10-chlorpyrifos	100 ± 7.6
cis-Chlordane	cis-Chlordane	5103-71-9	13C-PCB-153	80 ± 6.7
cis-Permethrin	cis-Permethrin	61949-76-6	13C-cis-permethrin	95 ± 12
cypermethrin*	cypermethrin	52315-07-8	13C-cis-permethrin	95 ± 12
Fipronil	Fipronil	120068-37-3	d-BBP	104 ± 5
Fluoxastrobin	Fluoxastrobin	193740-76-0	13C-cis-permethrin	95 ± 12
DEET	DEET	134-62-3	d-DEET	93 ± 9.3
Lindane	Lindane	58-89-9	D10-phenanthrene	81 ± 15
Malathion	Malathion	121-75-5	dTDCPP	82 ± 9.0
p,p'-DDE	p,p'-DDE	72-55-9	13C-PCB-153	80 ± 6.7
pyraclostrobin	pyraclostrobin	175013-18-0	13C-cis-permethrin	95 ± 12
trans-Chlordane	trans-Chlordane	5103-74-2	13C-PCB-153	80 ± 6.7

trans-Permethrin	trans-Permethrin	61949-77-7	13C-cis-permethrin	95 ± 12
Trifloxystrobin	Trifloxystrobin	141517-21-7	13C-cis-permethrin	95 ± 12
propiconazole	Pzole	60207-90-1	d-BBP	104 ± 5
Cyprodinil	Cyprodinil	121552-61-2	d-DEET	93 ± 9.3
Oxyfluorfen	Oxyfluorfen	42874-03-3	d-DEET	93 ± 9.3
benzyl butyl phthalate	BBP	85-68-7	d-BBP	104 ± 5
dibutyl phthalate	DBP	84-74-2	d-DEET	93 ± 9.3
Bis (2-ethylhexyl) adipate	DEHA	103-23-1	d-BBP	104 ± 5
Bis(2-ethylhexyl) phthalate	DEHP	117-81-7	d-DEHP	95 ± 4.2
Bis (2-ethylhexyl) terephthalate	DEHT	6422-86-2	d-DEHP	95 ± 4.2
di-ethyl phthalate	DEP	84-66-2	d-DEP	91 ± 9.1
di-isobutyl phthalate	DiBP	84-69-5	d-DEET	93 ± 9.3
di-isononyl phthalate	DINP	68515-48-0	d-DEHP	95 ± 4.2
di-methyl phthalate	DMP	131-11-3	d-DMP	79 ± 4.9
trioctylmetallitate	TOTM	3319-31-1	d-DEHP	95 ± 4.2
nonylphenol isomer mix	NP	25154-52-3	d-TnBP	90 ± 3.9
4-tertoctylphenol	OP	27193-28-8	d-TnBP	90 ± 3.9
lilial	lilial	80-54-6	d-DEP	91 ± 9.1

Table S3. Full list of BFR target analytes in the GC-NCI-HRMS panel, along with the internal standards and their recovery during extraction.

Analytes	Abbreviation	CAS #	Internal Standard	Internal Standard Recovery
2,4,4'-tribromodiphenyl ether	BDE 28	41318-75-6	F-BDE-69	100 ± 7
2,2',4,4'-tetrabromodiphenyl ether	BDE 47	5436-43-1	F-BDE-69	100 ± 7
2,3',4,4'-tetrabromodiphenyl ether	BDE 66	189084-61-5	F-BDE-69	100 ± 7
2,2',3,4,4'-pentabromodiphenyl ether	BDE 85	182346-21-0	F-BDE-69	100 ± 7
2,2',4,4',5-pentabromodiphenyl ether	BDE 99	60348-60-9	F-BDE-69	100 ± 7
2,2',4,4',6-pentabromodiphenyl ether	BDE 100	189084-64-8	F-BDE-69	100 ± 7
2,2',4,4',5,5'-hexabromodiphenyl ether	BDE 153	68631-49-2	F-BDE-69	100 ± 7
2,2',4,4',5,6'-hexabromodiphenyl ether	BDE 154	207122-15-4	F-BDE-69	100 ± 7
2,2',3,4,4',5',6-heptabromodiphenyl ether	BDE 183	207122-16-5	F-BDE-69	100 ± 7
Decabromodiphenyl ether	BDE 209	1163-19-5	^{13}C (M + 12) BDE-209	83 ± 6
Decabromodiphenyl ethane	DBDPE	84852-53-9	^{13}C (M + 12) BDE-209	83 ± 6
2-ethyl hexyl-2,3,4,5-tetrabromobenzoate	EHTBB	183658-27-7	^{13}C (M + 6) EHTBB	141 ± 17
Bis (2-ethyl hexyl)-2,3,4,5-tetrabromophthalate	BEHTBP	26040-51-7	^{13}C (M + 6) BEHTBP	103 ± 17
Bistribromophenoxyethane	BTBPE	37853-59-1	^{13}C (M + 6) BEHTBP	103 ± 17

Octabromotrimethylphenylindane	OBIND	155613-93-7	^{13}C (M + 6) BEHTBP	103 ± 17
Tetrabromobisphenol A	TBBPA	79-94-7	^{13}C (M + 6) BEHTBP	103 ± 17
2,4,6-tris(2,4,6-tribromophenoxy)-1,3,5-triazine	TTBP-TAZ	25713-60-4	^{13}C (M + 12) BDE-209	83 ± 6
Tetrabromobisphenol A bis(2,3-dibromopropyl ether)	TBBPA-DBPE	21850-44-2	^{13}C (M + 12) BDE-209	83 ± 6
Tris (2,3-dibromopropyl) isocyanurate	TDBPIC	52434-90-9	^{13}C (M + 12) BDE-209	83 ± 6

Table S4: Descriptive statistics and air concentrations (ng/m^3) for the additional SVOCs (non-PFAS) measured in fire station indoor air samples (n=25). *- indicates the sum of three structural isomers.

Chemical	Detection Limit (ng/m^3)	Detection Frequency (%)	25th Percentile	50th Percentile	75th Percentile	Maximum
2IPPDPP	0.730	4	NA	NA	NA	0.75
3IPPDPP	0.030	0	NA	NA	NA	NA
2tBPDPP	0.003	0	NA	NA	NA	NA
B2IPPPP	0.013	8	NA	NA	NA	0.35
4IPPDPP	0.262	4	NA	NA	NA	0.53
24DIPPDPP	0.270	8	NA	NA	NA	2.06
4tBPDPP	0.596	4	NA	NA	NA	2.47
B3IPPPP	0.043	4	NA	NA	NA	0.08
B2tBPPP	0.033	0	NA	NA	NA	NA
B4IPPPP	0.058	0	NA	NA	NA	NA
T3IPPP	0.223	0	NA	NA	NA	NA
B24DIPPPP	0.683	0	NA	NA	NA	NA
B4tBPPP	0.386	4	NA	NA	NA	1.03
T4IPPP	0.037	0	NA	NA	NA	NA
T4tBPP	0.006	4	NA	NA	NA	0.07
TEP	1.025	92	2.00	4.07	18.47	463.34
TiPP	0.494	0	NA	NA	NA	NA
TPrP	0.009	4	NA	NA	NA	0.04
TiBP	0.026	100	0.09	0.17	0.30	0.68
TnBP	0.680	68	NA	0.83	1.50	8.21
TCEP	0.14	64	NA	0.16	0.24	0.85
Sum TCPP*	1.350	92	6.92	8.41	14.73	31.49
TPeP	0.016	4	NA	NA	NA	0.020
TDCPP	0.585	28	NA	NA	0.610	1.54
TBOEP	2.301	12	NA	NA	NA	5.37
TPHP	1.367	20	NA	NA	NA	5.11

EHDPP	0.120	88	0.13	0.22	0.32	2.78
TEHP	0.008	56	NA	0.06	0.10	0.26
isodecylPP	0.314	4	NA	NA	NA	0.67
ToCP	0.391	0	NA	NA	NA	NA
TmCP	0.023	0	NA	NA	NA	NA
TpCP	0.602	0	NA	NA	NA	NA
TDMPP	0.081	0	NA	NA	NA	NA
Dibenzofuran	0.998	100	7.12	7.98	18.0	26.24
Nicotine	0.389	0	NA	NA	NA	NA
Lilial	0.376	100	2.46	6.06	13.75	103.13
Naphthalene	7.731	100	88.27	131.53	177.32	627.01
Acenaphthylene	0.204	100	2.17	3.26	9.51	23.46
Acenapthene	0.472	100	4.06	7.29	13.81	59.26
Fluorene	0.677	100	6.72	9.42	14.99	52.53
Phenanthrene	2.530	100	11.86	14.69	29.04	93.86
Anthracene	0.309	100	0.85	1.44	2.63	10.69
Fluoranthene	0.764	100	0.93	1.54	2.22	3.62
Pyrene	0.015	84	0.99	1.26	2.05	3.46
Benzo(c)phenanthrene	0.008	28	NA	NA	0.02	0.051
Benz[a]anthracene	0.011	24	NA	NA	NA	0.048
Chrysene	0.016	48	NA	NA	0.03	0.17
7,12-Dimethylbenz(a)anthracene	0.030	0	NA	NA	NA	NA
Benzo[j,b,k]fluoranthene	0.100	0	NA	NA	NA	NA
Benzo[e]pyrene	0.099	0	NA	NA	NA	NA
Benzo[a]pyrene	0.026	12	NA	NA	NA	0.035
Perylene	0.030	0	NA	NA	NA	NA
3-Methylcholanthrene	0.015	0	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.011	0	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.011	0	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.216	0	NA	NA	NA	NA
Dibenz[a,l]pyrene	0.060	0	NA	NA	NA	NA
Dibenz[a,i]pyrene	0.558	0	NA	NA	NA	NA
Dibenz[a,h]pyrene	0.193	0	NA	NA	NA	NA

PCB11	0.009	100	0.15	0.26	0.32	0.49
PCB28	0.002	60	NA	0.004	0.01	0.06
PCB51	0.008	0	NA	NA	NA	NA
PCB52	0.007	0	NA	NA	NA	NA
PCB47	0.007	0	NA	NA	NA	NA
PCB68	0.006	0	NA	NA	NA	NA
PCB101	0.000	0	NA	NA	NA	NA
PCB118	0.015	0	NA	NA	NA	NA
PCB153	0.012	0	NA	NA	NA	NA
PCB138	0.008	0	NA	NA	NA	NA
PCB183	0.004	0	NA	NA	NA	NA
PCB180	0.056	0	NA	NA	NA	NA
DEET	0.472	100	9.80	37.1	52.69	195.8
Atrazine	0.049	0	NA	NA	NA	NA
Lindane	0.009	0	NA	NA	NA	NA
Malathion	0.052	0	NA	NA	NA	NA
Chlorpyrifos	0.016	8	NA	NA	NA	0.028
Cyprodinil	0.001	16	NA	NA	NA	0.103
Fipronil	0.120	0	NA	NA	NA	NA
trans-Chlordane	0.026	88	0.032	0.06	0.13	50.3
cis-Chlordane	0.026	25	NA	NA	0.028	17.4
Oxyfluorfen	0.15	0	NA	NA	NA	NA
p,p'-DDE	0.00	0	NA	NA	NA	NA
chlorfenapyr	0.12	40	NA	NA	NA	6.89
Trifloxystrobin	0.01	0	NA	NA	NA	NA
Propiconazole	0.01	8	NA	NA	NA	1.441
cis-Permethrin	0.10	12	NA	NA	NA	0.221
trans-Permethrin	0.17	4	NA	NA	NA	0.197
cypermethrin	0.56	0	NA	NA	NA	NA
Pyraclostrobin	0.01	0	NA	NA	NA	NA
Azoxystrobin	0.64	0	NA	NA	NA	NA
Fluoxastrobin	0.67	0	NA	NA	NA	NA
4tOP	0.34	100	5.58	9.51	13.97	45.03

NP	7.94	100	24.66	39.86	61.07	188.91
DMP	3.01	88	4.95	11.27	31.79	48.84
DEP	8.86	92	31.47	43.08	78.81	196.45
DBP	7.32	100	32.76	72.39	109.9	470.23
DiBP	24.41	84	28.68	46.50	73.22	275.79
BBP	4.31	24	NA	NA	NA	82.82
DEHA	20.91	16	NA	NA	NA	64.23
DEHP	16.27	0	NA	NA	NA	NA
DEHT	43.53	4	NA	NA	NA	48.35
DINP	83.60	4	NA	NA	NA	146.05
TOTM	0.83	0	NA	NA	NA	NA
BDE 28	0.013	24	NA	NA	NA	0.030
BDE 47	0.103	16	NA	NA	NA	0.515
BDE 66	0.002	36	NA	NA	0.0035	0.009
BDE 100	0.003	16	NA	NA	NA	0.024
BDE 99	0.023	16	NA	NA	NA	0.081
BDE 85	0.004	0	NA	NA	NA	NA
BDE 154	0.002	0	NA	NA	NA	NA
BDE 153	0.005	0	NA	NA	NA	NA
BDE 183	0.005	0	NA	NA	NA	NA
BDE 209	0.586	0	NA	NA	NA	NA
EHTBB	0.102	48	NA	NA	0.388	1.92
BEHTBP	0.183	32	NA	NA	0.266	0.75
BTBPE	1.059	0	NA	NA	NA	NA
OBIND	0.049	0	NA	NA	NA	NA
DBDPE	0.722	0	NA	NA	NA	NA
TDBPIC	6.049	0	NA	NA	NA	NA
TTBP-TAZ	0.150	0	NA	NA	NA	NA

Table S5: Median air levels (ng/m^3) for frequently detected chemicals based on room. Mean values are presented for a few chemicals in which the distribution of data was found to be normal (Dibenzofuran, Fluoranthene, Pyrene, PCB11, NP, DMP). *Indicates chemicals that were significantly different in Closed Gear Room vs Open Gear Rooms. # Indicates chemicals that were significantly different in Closed Gear Rooms vs Day Rooms. Comparisons with Supply were not made since it is one location sampled in three different areas of the building.

Chemical	Closed (n=7)	Open (n=5)	Day (n=10)	Supply (n=3)
6:2FTOH*	67.89	6.15	9.30	95.25
8:2FTOH*	21.69	2.04	6.49	53.3
10:2FTOH*	25.82	1.64	9.39	55.3
8:2FTAC*	0.064	0.005	0.012	0.192
6:2FTMAC*	0.2	0.05	0.16	0.15
MeFBSE#	48.44	7.61	2.37	52.8
PCBTF	4.26	0.704	4.83	1.06
TEP#	24.3	2.32	3.09	1.9
TiBP*	0.38	0.046	0.19	0.12
TnBP	1.20	0.829	0.794	0.34
TCEP	0.18	0.07	0.163	0.207
Sum TCPP	8.18	6.3	11.17	0.07
EHDPP	0.783	0.242	0.14	0.22
TEHP	0.121	0.066	0.04	0.05
Dibenzofuran*	18.3	6.87	10.73	9.09
Lilial	6.06	2.19	15.23	2.68
Naphthalene	166	156	106	74.1
Acenaphthylene	9.72	2.9	2.32	5.33
Acenapthene*	10.78	4.06	10.48	4.26
Fluorene	13.0	7.33	8.85	6.72
Phenanthrene*	28.1	13.4	14.1	14.2
Anthracene*	2.93	0.96	1.39	0.90
Fluoranthene#	2.49	2.14	1.08	1.06
Pyrene	1.99	1.49	0.92	1.10
PCB11	0.285	0.167	0.31	0.09
PCB28	0.001	0.001	0.01	0.01
DEET	52.7	11.7	42.5	3.78
trans-Chlordane	0.301	0.059	0.06	0.01
4tOP	10.5	15.3	7.36	5.58
NP	52.82	21.2	68.5	117
DMP*#	31.02	7.516	16.30	1.51
DEP*	110	32.82	42.5	25.0
DBP	106	72.39	62.55	8.86
DiBP	76.0	49.8	40.1	23.1

Table S6: Spearman correlation coefficients comparing levels in paired gear storage rooms vs day rooms sampled simultaneously (n=10). Both open and closed turnout storage rooms were included. * Indicates statistically significant.

Chemical	Correlation Coefficient	p-value
6:2FTOH	0.36	0.29
8:2FTOH	0.60	0.60
10:2FTOH	0.04	0.89
8:2FTAC*	0.68	0.03
6:2FTMAC	0.40	0.23
MeFBSE*	0.66	0.03
PCBTF	0.36	0.29
TEP	0.59	0.07
TiBP	0.29	0.40
TnBP	-0.05	0.87
TCEP	-0.04	0.89
Sum TCPP*	0.78	0.01
EHDPP	0.27	0.45
TEHP	-0.39	0.26
Dibenzofuran	0.115	0.73
Lilial	0.32	0.35
Naphthalene	-0.67	0.84
Acenaphthylene	0.10	0.76
Acenapthene	0.53	0.11
Fluorene	0.50	0.13
Phenanthrene	0.31	0.37
Anthracene	0.37	0.28
Fluoranthene	0.38	0.26
Pyrene	0.37	0.28
PCB11	0.21	0.54
PCB28	0.17	0.61
DEET	0.36	0.29
trans-Chlordane	0.47	0.16
4tOP	-0.09	0.79
NP	0.47	0.16
DMP	0.52	0.12
DEP	0.33	0.33
DBP*	0.70	0.02
DiBP	0.49	0.14

Table S7. Parameters Used in Estimating PFOA Exposure Risk.

Parmeter	Description	Value	Reference
C_A	Concentration of 8:2 FTOH in room	variable	This Study; Table S8
InhR	Inhalation Rate	0.6 m^3/hr	EPA Exposure Handbook, 2011; Table 6-1
M_R	8:2 FTOH Conversion to PFOA (mole to mole)	5%	Fromme et al., 2009 [19]; Himmelstein et al. 2012 [32]
ADD	Acceptable Daily Dose	4 ng/day	Derived from MCL and IR_w
MCL	Maximum Contaminant Level	4 ng/L	US EPA Final PFAS National Primary Drinking Water Regulation
IR_w	Drinking Water Ingestion Rate	1.04 L/day	US EPA Exposure Factors Handbook, 2011; Table 3-1

Table S8. Individual rooms assessed for inhalation exposure to PFOA as calculated using equation 1 and the estimated time to reach an exposure equivalent to the ADD for PFOA.