

Supplemental Section

Table S1. Background metal concentration ($\mu\text{g/L}$) of R tubes condensing tubes cleaned with different methods.

Solution	Soln Purity	Soak Time	R tubes	N	Mn		Cr		Ni		Cd	
					Mean	SD	Avg	SD	Avg	SD	Avg	SD
10% HN O_3	Optima	18 hr	New	5	0.95	(0.39)	--	--	--	--	--	--
10% HN O_3	Optima	18 hr	Used	4	0.76	(0.37)	--	--	--	--	--	--
10% HNO_3	ACS	18 hr	New	5	0.50	(0.18)	--	--	--	--	--	--
10% HNO_3	ACS	5 day	New	5	1.04	(0.46)	0.266	(0.051)	4.43	(7.10)	0.053	(0.047)
10% NH_3OH	Optima	5 day	New	4	0.30	(0.10)	0.030	(0.014)	0.17	(0.13)	-0.132	(0.002)
10% NH_3OH	ACS	5 day	New	10	0.21	(0.17)	0.225	(0.259)	0.74	(1.24)	-0.012	(0.170)

Table S2. Association between EBC metal concentration measured as $\mu\text{g/L}$ EBC vs. ng/L air respired.

Metal	Coefficient ^a	95% CI	p-value
Mn	18.8	[17.9, 19.7]	<0.001
Cr	19.9	[19.3, 20.6]	<0.001
Ni	21.3	[20.3, 22.4]	<0.001
Cd	20.0	[18.4, 21.7]	<0.001

^a [avg metal concentration ($\mu\text{g/L}$)] / [avg metal concentration (ng/L air respired)]

Table S3. Measurement sensitivity using 3 different ways of estimating the value.

Metal	MDL	IDL1	IDL2
Mn	0.47	0.033	0.072
Cr	0.12	0.028	0.070
Ni	0.54	0.076	0.140
Cd	0.28	0.085	0.008