

ELECTRONIC SUPPLEMENTARY INFORMATION

Detection of surface contamination for particulate metals using spark emission spectroscopy

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Table S1 Signal intensity values corresponding to surface element concentrations of Co, Cr, Fe, and Mn.

Co			Cr		
surface concentration, ng/cm ²	Signal intensity, a.u.	yError	surface concentration, ng/cm ²	Signal intensity, a.u.	yError
66.9	4115	2164	14.7	2356	476
132.3	4688	1720	29.1	5812	2541
400.8	6904	3898	88.3	12543	2818
801.7	12323	3527	176.6	15578	4002
2004.2	20715	2277	353.3	24177	1417
4008.5	34371	10924	706.6	44268	12940

Fe			Mn		
surface concentration, ng/cm ²	Signal intensity, a.u.	yError	surface concentration, ng/cm ²	Signal intensity, a.u.	yError
16.6	1291	813	24.5	487	249
32.7	2142	972	48.4	1385	1284
99.2	8024	2353	146.8	3859	2156
198.4	6914	2473	293.5	6294	1527
396.8	13257	587	587.0	10740	709
793.5	24451	7219	1174.0	13176	5046

Table S2 Comparison of surface elemental concentration measured by SES method and NIOSH method 9102 for measuring surfaces contaminated with welding fume.

Cr		Cr	
NIOSH 9102:ng/cm ²	xError	SES:ng/cm ²	yError
4.6	3.1	58.6	3.8
145.2	47.5	62.1	11.4
195.0	95.1	89.5	4.2
444.4	17.8	264.1	15.2

Fe		Fe	
NIOSH 9102:ng/cm ²	xError	SES:ng/cm ²	yError
108.4	42.8	231.0	72.8
616.3	212.1	376.4	292.3
805.9	400.0	695.5	204.4
1955.6	0	1622.4	489.4

Mn NIOSH 9102:ng/cm ²	xError	Mn SES:ng/cm ²	yError
164.1	66.7	100.9	34.3
663.7	222.3	486.3	310.3
853.3	393.1	738.6	172.1
2074.1	102.6	1434.1	303.1