

Particle size distribution of workplace aerosols in manganese alloy smelters applying personal sampling strategy

Supplement

Table S1

PM mass distribution parameters in the Mn alloy smelters calculated from the deposited masses on all stages of the Sioutas cascade impactors under assumption of a single lognormal distribution (Hinds, 1999). Note the extremely high GSD values produced by the lognormal assumption due to the high mass content of the 2.5 μm – 10 μm size range.

	AM ^b	95% CI ^c	Min.	Max.
Mn alloy smelter 1 (N ^a = 19)				
MMAD ^d	2.7 μm	2.1 – 3.4 μm	0.9 μm	5.2 μm
GSD ^e	8.5	6.8 – 10.2	3.1	15.4
Mn alloy smelter 2 (N = 18)				
MMAD	3.0 μm	2.1 – 4.0 μm	0.6 μm	7.8 μm
GSD	16.7	6.9 – 26.5	5.1	85.4
Smelter 1+2 (N = 37)				
MMAD	2.9 μm	2.3 – 3.4 μm	0.6 μm	7.8 μm
GSD	12.5	7.5 – 17.4	3.1	85.4

^a Number of measurements

^b Arithmetic mean

^c Central 95 % confidence interval

^d Mass median aerodynamic diameter

^e Geometric standard deviation

Reference

W. C. Hinds, *Aerosol Technology: Properties, Behavior, and Measurement of Airborne Particles*, Wiley, New York, NY, USA, 2nd edn., 1999

Fig. S1 Particle mass concentration distributions measured by SMPS in the Mn alloy smelters (1.2 g cm⁻³ as density of the particles was used in the mass calculations)

