

Supplementary Table 1: cell viability after 3 hours incubation on A549 cells, measured with Neutral Red assay.

Particle Name		IC50 ($\mu\text{g/ml}$)	IC75 ($\mu\text{g/ml}$)	IC25 ($\mu\text{g/ml}$)
Copper	Lab. B	NT		
	Lab. C	362.5 (72.83-1805)	22.81	>3300
Copper (commercial source)	Lab. A	NT		
	Lab. C	NT		
Copper oxide (cuprous)	Lab. A	NT		
	Lab. C	NT		
Copper oxide (cupric)	Lab. A	NT		
	Lab. B	NT		
Copper oxide (cupric commercial source)	Lab. B	26.56 (15.3-51.9)	11.3	79.4
	Lab. C	2908 (304.5-2776)	173.11	>3300
Copper-Zinc mixed oxide variants	Lab. B	NT		
	Lab. C	NT		
Zinc oxide stoichiometric	Lab. A	NT		
	Lab. B	NT		
Zinc-Titania mixed oxide variants 50-50 mix	Lab. A	NT		
	Lab. C	NT		
Titania stoichiometric	Lab. B	NT		
	Lab. C	NT		
Titania non-stoichiometric	Lab. A	NT		
	Lab. C	NT		
Silver	Lab. A	342.6 (88.67-1323)	43.46	2700.61
	Lab. B	NA		
Silver (commercial source)	Lab. A	NT		
	Lab. C	NT		
Cobalt	Lab. A	NT		
	Lab. C	NT		
Cobalt (commercial source)	Lab. A	NT		
	Lab. B	NT		
Nickel-Cobalt-Manganese mixed variants	Lab. A	NT		
	Lab. C	NT		
Nickel	Lab. B	NT		
	Lab. C	NT		
Nickel oxide	Lab. B	1481 (182.6-12012)	74.7	>3300
	Lab. C	NT		
Zirconia	Lab. A	NT		
	Lab. C	NT		
Yttria doped Zirconia	Lab. B	NT		
	Lab. C	NT		
Stainless steel	Lab. B	NT		
	Lab. C	NT		
Alumina	Lab. A	NT		
	Lab. B	NT		
Tin oxide	Lab. A	NT		
	Lab. B	NT		
Tungsten carbide	Lab. A	NT		
	Lab. B	NT		
Ceria	Lab. A	NT		
	Lab. B	NT		

TC50, TC25 and TC75 values ($\mu\text{g/ml}$) obtained with NR assay, after 3 hours exposure of A549 cells, for each laboratory. 95% confidence interval is given in brackets for TC50. NT stands for Non Toxic (no TC50 could be calculated), and NA for Not Available (experiment not performed).

Supplementary Table 2: cell viability after 24 hours incubation on A549 cells, measured with Neutral Red assay.

Particle Name		IC50 ($\mu\text{g/ml}$)	IC75 ($\mu\text{g/ml}$)	IC25 ($\mu\text{g/ml}$)
Copper	Lab. B	74.95 (7.39-759.7)	18.75	299.63
	Lab. C	31.27 (5.4-181.1)	0.62	1566.33
Copper (commercial source)	Lab. A	1698 (155.4-1856)	109.75	>3300
	Lab. C	70.79 (11.2-447.4)	1.02	>3300
Copper oxide (cuprous)	Lab. A	39.96 (9.33-171.1)	2.82	566.94
	Lab. C	164.7 (39.5-686)	3.45	>3300
Copper oxide (cupric)	Lab. A	832.7 (98.4-7046)	10.55	>3300
	Lab. B	102.5 (28.23-371.9)	32.81	320.19
Copper oxide (cupric commercial source)	Lab. B	11.44 (9.03-12.13)	10.29	12.72
	Lab. C	20.84 (139.4-7934)	19.24	>3300
Copper-Zinc mixed oxide variants	Lab. B	47.91 (15.79-145.4)	10.27	223.5
	Lab. C	54.64 (1.41-2.06)	1.29	2322.3
Zinc oxide stoichiometric	Lab. A	29.12 (11.5-73.76)	15.18	55.85
	Lab. B	25.11 (13.71-46)	19.39	32.51
Zinc-Titania mixed oxide variants 50-50 mix	Lab. A	92.03 (87.3-95.87)	83.25	101.73
	Lab. C	NT		
Titania stoichiometric	Lab. B	NT		
	Lab. C	NT		
Titania non-stoichiometric	Lab. A	NT		
	Lab. C	NT		
Silver	Lab. A	380.9 (67.13-2161)	61.17	2371.8
	Lab. B	NA		
Silver (commercial source)	Lab. A	NT		
	Lab. C	NT		
Cobalt	Lab. A	NT		
	Lab. C	NT		
Cobalt (commercial source)	Lab. A	1243 (334.1-4626)	425.14	>3300
	Lab. B	241.6 (61.15-954.4)	51.03	1143.7
Nickel-Cobalt-Manganese mixed variants	Lab. A	NT		
	Lab. C	NT		
Nickel	Lab. B	1032 (415.1-2565)	207.47	>3300
	Lab. C	509.9 (365.2-712)	193.8	1341.18
Nickel oxide	Lab. B	NT		
	Lab. C	NT		
Zirconia	Lab. A	NT		
	Lab. C	NT		
Yttria doped Zirconia	Lab. B	NT		
	Lab. C	NT		
Stainless steel	Lab. B	NT		
	Lab. C	NT		
Alumina	Lab. A	NT		
	Lab. B	NT		
Tin oxide	Lab. A	NT		
	Lab. B	NT		
Tungsten carbide	Lab. A	NT		
	Lab. B	NT		
Ceria	Lab. A	NT		
	Lab. B	NT		

TC50, TC25 and TC75 values ($\mu\text{g/ml}$) obtained with MTT assay, after 24 hours exposure of THP-1 cells, for each laboratory. 95% confidence interval is given in brackets for TC50. NT stands for Non Toxic (no TC50 could be calculated), and NA for Not Available (experiment not performed).

Supplementary Table 3: cell viability after 3 hours incubation on A549 cells, measured with MTT assay.

Particle Name		IC50 ($\mu\text{g/ml}$)	IC75 ($\mu\text{g/ml}$)	IC25 ($\mu\text{g/ml}$)
Copper	Lab. B	8.45 (1.97-36.16)	4.96	14.37
	Lab. C	123.1 (117.1-137.6)	113.58	133.42
Copper (commercial source)	Lab. A	94.54 (61.3-99.8)	85.15	104.97
	Lab. C	45.18 (43.6-48.9)	39.48	51.7
Copper oxide (cuprous)	Lab. A	64.4 (35.53-116.7)	50.17	82.66
	Lab. C	47.03 (35.69-61.97)	36.43	60.71
Copper oxide (cupric)	Lab. A	31.79 (3.39-298)	27.62	36.59
	Lab. B	35.03 (22.6-54.29)	24.85	49.39
Copper oxide (cupric commercial source)	Lab. B	15.76 (0.71-350)	13.56	18.32
	Lab. C	17.85 (1.08-294)	15.17	21
Copper-Zinc mixed oxide variants	Lab. B	108.3 (34.03-344.3)	90.02	130.29
	Lab. C	388.3 (60.51-2492)	34.94	>3300
Zinc oxide stoichiometric	Lab. A	771.4 (171.9-3492)	36.44	>3300
	Lab. B	NT		
Zinc-Titania mixed oxide variants 50-50 mix	Lab. A	NT		
	Lab. C	NT		
Titania stoichiometric	Lab. B	NT		
	Lab. C	NT		
Titania non-stoichiometric	Lab. A	NT		
	Lab. C	NT		
Silver	Lab. A	64.23 (39.04-105.7)	45.58	90.52
	Lab. B	NA		
Silver (commercial source)	Lab. A	NT		
	Lab. C	NT		
Cobalt	Lab. A	646.5 (225.7-1852)	495.94	842.76
	Lab. C	NT		
Cobalt (commercial source)	Lab. A	100.4 (36.89-273.4)	12.91	780.52
	Lab. B	NT		
Nickel-Cobalt-Manganese mixed variants	Lab. A	NT		
	Lab. C	NT		
Nickel	Lab. B	NT		
	Lab. C	NT		
Nickel oxide	Lab. B	805 (61.15-10597)	62.55	>3300
	Lab. C	NT		
Zirconia	Lab. A	NT		
	Lab. C	NT		
Yttria doped Zirconia	Lab. B	NT		
	Lab. C	NT		
Stainless steel	Lab. B	NT		
	Lab. C	NT		
Alumina	Lab. A	NT		
	Lab. B	NT		
Tin oxide	Lab. A	NT		
	Lab. B	NT		
Tungsten carbide	Lab. A	NT		
	Lab. B	NT		
Ceria	Lab. A	NT		
	Lab. B	440.4 (73.38-2644)	120.73	1613.94

TC50, TC25 and TC75 values ($\mu\text{g/ml}$) obtained with MTT assay, after 3 hours exposure of A549 cells, for each laboratory. 95% confidence interval is given in brackets for TC50. NT

stands for Non Toxic (no TC50 could be calculated), and NA for Not Available (experiment not performed).

Supplementary Table 4: cell viability after 24 hours incubation on A549 cells, measured with MTT assay.

Particle Name		IC50 ($\mu\text{g/ml}$)	IC75 ($\mu\text{g/ml}$)	IC25 ($\mu\text{g/ml}$)
Copper	Lab. B	13.49 (11.1-15.6)	12.13	15
	Lab. C	17.04 (11.51-25.24)	11.69	24.84
Copper (commercial source)	Lab. A	48.13 (28.13-82.36)	34.65	66.86
	Lab. C	33.74 (28.8-42.48)	15.54	68.83
Copper oxide (cuprous)	Lab. A	45 (38.6-52.45)	26.86	75.39
	Lab. C	52.52 (42.23-65.3)	36.33	75.91
Copper oxide (cupric)	Lab. A	47.41 (29.65-75.83)	34.78	64.62
	Lab. B	35.61 (33.2-39.1)	32.45	39.08
Copper oxide (cupric commercial source)	Lab. B	10.07 (5.71-17.73)	6.72	15.08
	Lab. C	10.82 (8.08-14.49)	6.89	17
Copper-Zinc mixed oxide variants	Lab. B	14.41 (8.14-25.5)	9.21	22.56
	Lab. C	158.6 (69.72-360.8)	29.43	854.57
Zinc oxide stoichiometric	Lab. A	66.17 (44.46-98.48)	13.71	319.24
	Lab. B	34.31 (32.7-36.5)	31.99	36.79
Zinc-Titania mixed oxide variants 50-50 mix	Lab. A	86.73 (73.89-101.8)	49.95	171.17
	Lab. C	275.9 (203.1-374.6)	131.53	578.73
Titania stoichiometric	Lab. B	NT		
	Lab. C	NT		
Titania non-stoichiometric	Lab. A	NT		
	Lab. C	NT		
Silver	Lab. A	42.67 (20.19-90.16)	9.86	187.73
	Lab. B	NA		
Silver (commercial source)	Lab. A	NT		
	Lab. C	NT		
Cobalt	Lab. A	NT		
	Lab. C	NT		
Cobalt (commercial source)	Lab. A	1142 (405.2-3220)	225.21	>3300
	Lab. B	3039 (81.72-112980)	803.97	>3300
Nickel-Cobalt-Manganese mixed variants	Lab. A	NT		
	Lab. C	NT		
Nickel	Lab. B	NT		
	Lab. C	NT		
Nickel oxide	Lab. B	994.9 (937.3-1007.9)	935.77	1057.77
	Lab. C	NT		
Zirconia	Lab. A	911.2 (613.4-1354)	667.02	1244.75
	Lab. C	82.88 (39.99-171.8)	34.68	198.07
Yttria doped Zirconia	Lab. B	NT		
	Lab. C	NT		
Stainless steel	Lab. B	NT		
	Lab. C	NT		
Alumina	Lab. A	NT		
	Lab. B	NT		
Tin oxide	Lab. A	NT		
	Lab. B	NT		
Tungsten carbide	Lab. A	NT		
	Lab. B	NT		
Ceria	Lab. A	NT		
	Lab. B	NT		

TC50, TC25 and TC75 values ($\mu\text{g/ml}$) obtained with MTT assay, after 24 hours exposure of A549 cells, for each laboratory. 95% confidence interval is given in brackets for TC50. NT

stands for Non Toxic (no TC50 could be calculated), and NA for Not Available (experiment not performed).

Supplementary Table 5: cell viability after 3 hours incubation on THP-1 cells, measured with Neutral red assay.

Particle Name		IC50 ($\mu\text{g/ml}$)	IC75 ($\mu\text{g/ml}$)	IC25 ($\mu\text{g/ml}$)
Copper	Lab. B	0.08 (0-16315)	0.36	0.02
	Lab. C	60.47 (25.98-140.7)	23	158.92
Copper (commercial source)	Lab. A	NT		
	Lab. C	26.16 (12.65-54.1)	6.63	103.25
Copper oxide (cuprous)	Lab. A	NT		
	Lab. C	47.69 (11.72-194)	1.30	1746.81
Copper oxide (cupric)	Lab. A	154.6 (59.65-400.8)	63.92	373.89
	Lab. B	NT		
Copper oxide (cupric commercial source)	Lab. B	2413 (302.4-19254)	12.67	>3300
	Lab. C	NT		
Copper-Zinc mixed oxide variants	Lab. B	NT		
	Lab. C	9.26 (3.41-25.16)	1.95	43.95
Zinc oxide stoichiometric	Lab. A	14.11 (8.19-24.3)	5.43	36.68
	Lab. B	0.14 (0-6.4)	0.02	0.79
Zinc-Titania mixed oxide variants 50-50 mix	Lab. A	354.3 (122.6-1024)	61.52	2040.44
	Lab. C	61.52 (21.87-173.1)	3.36	1125.23
Titania stoichiometric	Lab. B	538.5 (225.6-1285)	204.03	142125
	Lab. C	NA		
Titania non-stoichiometric	Lab. A	2193 (1500-3250)	759.44	>3300
	Lab. C	753.7 (326.9-1738)	249.02	2281.22
Silver	Lab. A	59.77 (20.89-171)	3.44	1038.49
	Lab. B	NA		
Silver (commercial source)	Lab. A	NT		
	Lab. C	531.4 (704.1-12333)	147.35	1916.37
Cobalt	Lab. A	NT		
	Lab. C	NT		
Cobalt (commercial source)	Lab. A	NT		
	Lab. B	NT		
Nickel-Cobalt-Manganese mixed variants	Lab. A	NT		
	Lab. C	809.9 (163.4-4014)	196.53	>3300
Nickel	Lab. B	NT		
	Lab. C	NT		
Nickel oxide	Lab. B	NT		
	Lab. C	NT		
Zirconia	Lab. A	NT		
	Lab. C	NA		
Ytria doped Zirconia	Lab. B	582.1 (268.8-1261)	162.14	2089.84
	Lab. C	NA		
Stainless steel	Lab. B	NT		
	Lab. C	196 (36.85-1043)	14.08	2728.24
Alumina	Lab. A	NT		
	Lab. B	NT		
Tin oxide	Lab. A	NT		
	Lab. B	NT		
Tungsten carbide	Lab. A	NT		
	Lab. B	NT		
Ceria	Lab. A	NT		
	Lab. B	NT		

TC50, TC25 and TC75 values ($\mu\text{g/ml}$) obtained with NR assay, after 3 hours exposure of THP-1 cells, for each laboratory. 95% confidence interval is given in brackets for TC50. NT stands for Non Toxic (no TC50 could be calculated), and NA for Not Available (experiment not performed).

Supplementary Table 6: cell viability after 24 hours incubation on THP-1 cells, measured with Neutral red assay.

Particle Name		IC50 ($\mu\text{g/ml}$)	IC75 ($\mu\text{g/ml}$)	IC25 ($\mu\text{g/ml}$)
Copper	Lab. B	5.7 (0.07-452.6)	40.08	0.81
	Lab. C	0.39 (0.11-1.42)	0.03	5.05
Copper (commercial source)	Lab. A	114.7 (19.43-677.2)	6.22	2114.16
	Lab. C	13.15 (1.86-92.81)	1.41	122.93
Copper oxide (cuprous)	Lab. A	8.15 (2.97-22.36)	2.44	27.41
	Lab. C	2.93 (0.58-14.9)	0.28	30.85
Copper oxide (cupric)	Lab. A	12.38 (3.92-39.11)	0.94	163.79
	Lab. B	NT		
Copper oxide (cupric commercial source)	Lab. B	17.88 (15.7-19.2)	16.31	19.6
	Lab. C	4.98 (0.88-28.1)	0.2	122.53
Copper-Zinc mixed oxide variants	Lab. B	1911 (457.7-7978)	101.04	>3300
	Lab. C	87.91 (20.94-369.1)	25.04	308.68
Zinc oxide stoichiometric	Lab. A	2.08 (1.4-3.09)	1.11	3.89
	Lab. B	81.22 (1.2-5506)	6.02	1095.84
Zinc-Titania mixed oxide variants 50-50 mix	Lab. A	10 (9.1-11.5)	9.9	10.1
	Lab. C	19.74 (4.79-81.37)	1.49	261.17
Titania stoichiometric	Lab. B	95.97 (20.57-447.8)	6.15	1497.05
	Lab. C	NA		
Titania non-stoichiometric	Lab. A	1062 (605.3-1864)	262.16	>3300
	Lab. C	220.5 (123.6-393.1)	79.2	613.86
Silver	Lab. A	18.36 (9.94-34)	10.66	31.68
	Lab. B	NA		
Silver (commercial source)	Lab. A	NT		
	Lab. C	27.6 (10.74-70.92)	4.33	175.83
Cobalt	Lab. A	NT		
	Lab. C	NT		
Cobalt (commercial source)	Lab. A	164.7 (26.3-1031)	3.88	>3300
	Lab. B	NA		
Nickel-Cobalt-Manganese mixed variants	Lab. A	112.9 (51.84-246)	14.82	860.24
	Lab. C	0.63 (0.08-4.6)	0.05	8.05
Nickel	Lab. B	NT		
	Lab. C	141 (37.13-535.6)	23.81	834.9
Nickel oxide	Lab. B	NT		
	Lab. C	2.36 (1.19-4.67)	0.15	37.02
Zirconia	Lab. A	NT		
	Lab. C	NT		
Yttria doped Zirconia	Lab. B	NT		
	Lab. C	NT		
Stainless steel	Lab. B	NT		
	Lab. C	145.8 (92.03-230.9)	45.89	463.21
Alumina	Lab. A	672.5 (210.2-2152)	100.35	>3300
	Lab. B	NT		
Tin oxide	Lab. A	562.1 (165.5-1909)	9.77	>3300
	Lab. B	NT		
Tungsten carbide	Lab. A	NT		
	Lab. B	NT		
Ceria	Lab. A	476.6 (162.7-1396)	101.65	2234.65
	Lab. B	NT		

TC50, TC25 and TC75 values ($\mu\text{g/ml}$) obtained with NR assay, after 24 hours exposure of THP-1 cells, for each laboratory. 95% confidence interval is given in brackets for TC50. NT stands for Non Toxic (no TC50 could be calculated), and NA for Not Available (experiment not performed).

Supplementary Table 7: cell viability after 3 hours incubation on THP-1 cells, measured with MTT assay.

Particle Name		IC50 ($\mu\text{g/ml}$)	IC75 ($\mu\text{g/ml}$)	IC25 ($\mu\text{g/ml}$)
Copper	Lab. B	5,89 (0,53-1)	2,26	15,3
	Lab. C	117,6 (63,53-217,6)	75,19	183,94
Copper (commercial source)	Lab. A	30,56 (24,02-38,88)	21,48	43,48
	Lab. C	37,81 (35,4-36,8)	33,54	42,62
Copper oxide (cuprous)	Lab. A	57,48 (43,43-76,08)	40,46	81,67
	Lab. C	28,16 (18,66-42,5)	16,04	49,44
Copper oxide (cupric)	Lab. A	37,85 (21,5-53,8)	1,48	33,55
	Lab. B	4,94 (0,75-32,5)	42,7	16,53
Copper oxide (cupric commercial source)	Lab. B	16,21 (15,23-18,51)	13,67	19,22
	Lab. C	44,64 (31,13-64,02)	34,51	57,74
Copper-Zinc mixed oxide variants	Lab. B	58,15 (21,48-157,4)	22,09	153,08
	Lab. C	1562 (530,7-4598)	278,32	>3300
Zinc oxide stoichiometric	Lab. A	491,4 (218,8-1103)	49,32	>3300
	Lab. B	22,33 (12,31-40,49)	8,44	59,09
Zinc-Titania mixed oxide variants 50-50 mix	Lab. A	771,3 (435,4-1366)	216,94	2742,26
	Lab. C	263,2 (95,41-726,3)	112,61	615,18
Titania stoichiometric	Lab. B	336,4 (227,3-498)	129,95	870,86
	Lab. C	NA		
Titania non-stoichiometric	Lab. A	NT		
	Lab. C	NT		
Silver	Lab. A	19,74 (10,27-37,93)	12,35	31,56
	Lab. B	NA		
Silver (commercial source)	Lab. A	NT		
	Lab. C	NT		
Cobalt	Lab. A	NA		
	Lab. C	NA		
Cobalt (commercial source)	Lab. A	232,6 (27,59-1960)	57,65	938,43
	Lab. B	304,3 (297,3-327,1)	283,68	326,41
Nickel-Cobalt-Manganese mixed variants	Lab. A	NT		
	Lab. C	NT		
Nickel	Lab. B	170,8 (55,43-526,4)	30,53	955,45
	Lab. C	NT		
Nickel oxide	Lab. B	45,96 (18,24-115,8)	17,56	120,27
	Lab. C	NT		
Zirconia	Lab. A	NT		
	Lab. C	NT		
Yttria doped Zirconia	Lab. B	NT		
	Lab. C	NT		
Stainless steel	Lab. B	144,9 (21,72-966,5)	41,53	505,6
	Lab. C	NT		
Alumina	Lab. A	NT		
	Lab. B	314,5 (301,4-345,2)	282	350,75
Tin oxide	Lab. A	NT		
	Lab. B	22,72 (13,83-37,34)	5,74	89,95
Tungsten carbide	Lab. A	NT		
	Lab. B	NT		
Ceria	Lab. A	4223,1 (126,7-1413)	31,92	>3300
	Lab. B	521,9 (242,4-1124)	189,78	1435,24

TC50, TC25 and TC75 values ($\mu\text{g/ml}$) obtained with MTT assay, after 3 hours exposure of THP-1 cells, for each laboratory. 95% confidence interval is given in brackets for TC50. NT stands for Non Toxic (no TC50 could be calculated), and NA for Not Available (experiment not performed).