

Table 1. Chemical constituents (ng/mg PM mass) in particles emitted from the heavy-duty diesel engine operated with EN590, HVO (30% and 100%), or RME (30% and 100%). EN590 and 100% HVO were used with and without DOC+POC catalytic converter. CNG bus included as a comparison.

ng/mg	EN590	EN590 cat	30% HVO	100% HVO	HVO cat	30% RME	100% RME	CNG
<i>Organic components</i>								
Sum of PAH compounds	820	115	809	613	205	710	491	61.7
Sum of Genotoxic PAHs	380	35.2	381	257	66.3	422	340	26.4
<i>Inorganic ions</i>								
Na ⁺	690	709	352	465	1530	260	370	2390
NH ₄ ⁺	137	139	356	163	249	372	250	199
K ⁺	23.9	29.6	19.0	17.1	34.3	51.7	145	116
Cl ⁻	113	133	48	138	210	32.7	49.2	459
SO ₄ ²⁻	143	156	170	145	212	115	46	777
NO ₃ ⁻	1090	1150	451	734	2390	449	712	1360
<i>Elemental composition</i>								
Cd	0.2	0.1	0.4	0.3	0.6	1.0	0.7	1.1
Co	23.8	2.1	27.5	9.8	22.6	81.6	10.5	313
Cr	36.0	32.2	32.8	33.6	45.6	43.7	43.1	226
Cu	96.4	51.5	83.0	66.9	74.6	119.6	61.7	214
Fe	610	274	868	424	855	2490	330.6	1690
Mn	62.9	24.5	82.9	23.4	141	658	19.4	94.4
Ni	19.1	8.5	23.8	15.7	28.3	35.8	13.7	266.4
Pb	3.6	2.2	4.1	6.8	11.0	11.2	5.0	19.8
V	1.8	1.0	2.0	1.6	4.8	3.0	1.0	26.9
Zn	2340	1190	3350	2070	716	2390	671	2280

* Genotoxic PAHs as defined by WHO/IPCS (1998)