



Wafer Cushioning & Separator Outgassing

Sample Tested *= 120C, 24 hrs **= 85C, 24 hrs	Fixeon C3™ Clean Conductive Separator*	Carbonleaf™ Conductive Separator*	Fixeon Tyvek™ Antistatic Separator*	Fixeon CCF (Closed Cell Foam) Cushion*	Fixeon UPF (Ultra Pure Closed Cell Foam)**
Thickness	0.11mm (0.0045")	0.12mm (0.005")	0.12mm (0.005")	1.60mm (0.063")	1.60mm (0.063")
Resistance	E6-E8	E10/E6	E10	E10	>E11
Average Sample Weight (mg)	221.1	112.2	99.0	58.9	85.2
Average Surrogate Recovery Hexadecane-d34	87 % ± 17 %	87 % ± 5 %	109 % ± 8 %	112 % ± 9 %	104 % ± 11 %
Average Internal Standard Recovery Anthracene-d10	100 % ± 2 %	102 % ± 1 %	103 % ± 2 %	100 % ± 4 %	100 % ± 3 %
Compound Classification	µg/g	µg/g	µg/g	µg/g	µg/g
Total Hydrocarbons	39 ± 3	630 ± 68	940 ± 41	730 ± 40	13 ± 5
Total Acrylate Esters	< DL	< 0.1	< 0.2	< 0.3	< DL
Total Esters	< DL	2 ± 1	0.7 ± 0.3	1 ± 0.6	< DL
Total Siloxanes	< DL	< 0.1	0.8 ± 0.3	0.4 ± 0.3	< DL
Total Organic Acids	< DL	0.5 ± 0.5	0.8 ± 0.1	3 ± 4	< DL
Total Alcohols	2 ± 0.6	46 ± 8	35 ± 2	122 ± 22	< DL
Total Ketone/Aldehydes	0.1 ± 0.06	6 ± 1	1 ± 0.6	3 ± 0.6	< DL
Total Amines	< DL	< 0.1	< 0.2	< 0.3	< DL
Total Amides	< DL	< 0.1	< 0.2	< 0.3	< DL
Total Other	< DL	< 0.1	2 ± 2	< 0.3	< DL
Total Outgassing	41 ± 3	680 ± 76	980 ± 44	860 ± 22	13 ± 5

Data is blank corrected. +/- is one standard deviation. All outgassing values have been manifold blank subtracted. Benzene and bis(2-ethylhexyl) phthalate were not consistently recovered in the manifold spikes and may not have been fully recovered in the sample replicates, if present.