

Supporting Information

Table S1 Biological Indicator Test Results

Test ID	<i>G.s.</i> BI results (# exhibiting growth/# tested)
Test C1	0/3
Test C2	0/9
Test C3	0/9
Test C4	0/9
Test C5	0/9
Test C6	0/9
Test C7	1/6
Test C8	1/9
Test C9	0/9
Test C10	0/9

- All tests used *G. stearothermophilus* (var. 12980) BIs, nominally 10⁶ CFU per stainless steel carrier. Each disc was enclosed in a Tyvek pouch.
- The BIs were produced from Mesa Labs, Bozeman MT, USA, and cultured/analyzed per manufacturer instructions, incubated 7 days at 55-60 °C.
- All COMMANDER tests utilized 3 BIs for each of the 3 test chamber locations (n=9) - co-located with coupons - except as noted in table.
- There were only 2 BIs showing growth (incomplete inactivation of carrier) out of a total of 81 tested.

Figure S1 Photos of humidifiers used in testing



Sponge/Evaporative type humidifier



Ultrasonic humidifier



Heated vaporizer

Table S2 Decontamination efficacy results, average \pm SD log reduction values, by test #/material/chamber location

Test #	Above Ceiling	On Desk	Under Desk	avg	sd
C1					
Carpet	5.63	7.72	7.75	7.04	1.21
Ceiling Tile	5.84	6.77	6.77	6.46	0.54
Concrete	0.64	2.65	2.42	1.90	1.10
Glass	4.39	7.48	7.48	6.45	1.78
Drywall	5.15	6.56	5.98	5.90	0.71
Laminate	5.35	7.56	7.55	6.82	1.27
C2					
Carpet	7.61	7.61	7.61	7.61	0.00
Ceiling Tile	6.77	6.77	6.77	6.77	0.00
Galvanized Steel	7.46	7.46	7.46	7.46	0.00
Glass	7.17	7.18	7.17	7.17	0.00
Drywall	7.45	7.45	7.45	7.45	0.00
Laminate	7.54	7.54	7.55	7.54	0.01
Wood	7.90	7.89	7.86	7.88	0.02
C3					
Carpet	7.60	7.59	7.60	7.60	0.01
Ceiling Tile	6.66	6.66	6.66	6.66	0.00
Galvanized Steel	7.36	7.35	7.35	7.35	0.01
Glass	7.33	7.33	7.21	7.29	0.07
Drywall	7.67	7.55	7.68	7.63	0.07
Laminate	7.80	7.79	7.80	7.80	0.01
Wood	7.78	7.77	7.78	7.78	0.00
C4					
Carpet	7.50	7.50	7.49	7.50	0.01
Ceiling Tile	6.56	6.56	6.56	6.56	0.00
Galvanized Steel	7.43	7.43	7.44	7.43	0.00
Glass	7.39	7.52	7.52	7.48	0.07
Drywall	7.36	7.36	7.35	7.36	0.01
Laminate	7.47	7.46	7.46	7.46	0.00
Wood	7.73	7.78	7.77	7.76	0.03

Test #	Above Ceiling	On Desk	Under Desk	avg	sd
C5					
Carpet	7.39	6.98	7.39	7.25	0.24
Ceiling Tile	6.62	6.62	6.62	6.62	0.00
Galvanized Steel	7.48	7.46	7.46	7.47	0.01
Glass	7.19	7.34	7.33	7.28	0.08
Drywall	7.19	7.20	7.18	7.19	0.01
Laminate	7.54	7.54	7.54	7.54	0.00
Wood	7.00	7.53	7.54	7.36	0.31
C6					
Carpet	6.24	7.59	6.83	6.89	0.68
Ceiling Tile	4.67	5.32	4.57	4.85	0.41
Galvanized steel	7.47	7.48	4.90	6.62	1.48
Glass	7.75	7.74	7.74	7.74	0.00
Drywall	7.58	7.46	7.46	7.50	0.07
Laminate	6.92	7.56	6.92	7.13	0.37
Wood	7.89	7.88	7.89	7.89	0.01
C7					
Carpet	5.68	4.88	6.91	5.83	1.02
Ceiling Tile	5.07	5.29	6.77	5.71	0.92
Galvanized steel	2.80	6.68	2.65	4.04	2.29
Glass	5.79	7.38	6.93	6.70	0.82
Drywall	3.97	6.00	6.63	5.53	1.39
Laminate	7.30	6.16	7.60	7.02	0.76
Wood	7.78	7.77	7.30	7.62	0.27
C8					
Carpet	7.50	7.81	7.80	7.70	0.17
Ceiling Tile	5.80	6.62	6.62	6.35	0.48
Galvanized steel	7.29	7.42	5.66	6.79	0.98
Glass	7.15	7.27	7.15	7.19	0.07
Drywall	7.29	5.96	7.42	6.89	0.81
Laminate	7.55	7.55	7.55	7.55	0.00
Wood	7.69	7.55	7.71	7.65	0.09

Test #	Above Ceiling	On Desk	Under Desk	avg	sd
C9					
Carpet	3.65	7.63	6.98	6.08	2.13
Ceiling Tile	6.56	6.68	6.68	6.64	0.07
Galvanized steel	4.59	6.88	6.88	6.12	1.32
Glass	6.40	7.22	4.87	6.16	1.19
Drywall	6.99	5.44	7.34	6.59	1.01
Laminate	7.30	7.30	7.29	7.30	0.00
Wood	7.34	7.35	7.24	7.31	0.06

C10					
Carpet	7.75	7.75	7.74	7.75	0.00
Ceiling Tile	6.23	6.66	6.66	6.52	0.25
Galvanized steel	3.41	5.79	7.41	5.54	2.02
Glass	6.47	6.23	7.59	6.76	0.73
Drywall	5.75	7.41	6.28	6.48	0.85
Laminate	7.63	7.62	7.63	7.63	0.00
Wood	7.63	7.66	7.63	7.64	0.02

LR values in red signify complete inactivation of spores for the 3 replicates at a particular chamber location