

Appendix E
Raw Data and Summary of Solid Wood Formaldehyde Emission (Timber Wood Species)

Item/ Size/ MC	Solid wood/ 2.5mm/ MC6 %									
Method/ Standard/ Specimens	DC-AA (24 hr, 20 °C)/ JAS 233/ (150 x 50)mm, 10pcs									
Absorbance DC-AA (412 nm)										
Panel	BNG	BTI	KPR	KRG	LRN	MGS	RSY	SDM	WSY	YSY
P1	0.0075	0.0059	0.0044	0.0050	0.0070	0.0052	0.0049	0.0051	0.0064	0.0068
P2	0.0076	0.0059	0.0045	0.0051	0.0072	0.0053	0.0052	0.0054	0.0063	0.0070
P3	0.0075	0.0062	0.0044	0.0053	0.0073	0.0051	0.0051	0.0056	0.0064	0.0065
P4	0.0071	0.0063	0.0046	0.0055	0.0069	0.0050	0.0048	0.0053	0.0065	0.0067
P5	0.0072	0.0060	0.0043	0.0052	0.0069	0.0053	0.0050	0.0052	0.0061	0.0069
Formaldehyde emission DC-AA (mg/L)										
P1	0.034	0.021	0.009	0.014	0.030	0.016	0.013	0.015	0.025	0.028
P2	0.034	0.021	0.010	0.015	0.031	0.016	0.016	0.017	0.024	0.030
P3	0.034	0.024	0.009	0.016	0.032	0.015	0.015	0.019	0.025	0.026
P4	0.031	0.024	0.011	0.018	0.029	0.014	0.013	0.016	0.026	0.027
P5	0.031	0.022	0.009	0.016	0.029	0.016	0.014	0.016	0.023	0.029
Mean	0.03	0.02	0.01	0.02	0.03	0.02	0.01	0.02	0.02	0.03
SD	0.002	0.001	0.001	0.002	0.001	0.001	0.001	0.002	0.001	0.002
Co-v	0.05	0.06	0.09	0.10	0.05	0.07	0.09	0.09	0.05	0.05
RSD	5.2%	6.4%	9.2%	9.5%	4.7%	6.6%	8.8%	9.1%	4.8%	5.4%

Item/ Size/ MC	Solid wood/ 2.5mm/ MC6 %									
Method/ Standard/ Specimens	SC-CA (2½ hr, 25 °C)/ ASTM 6007-02/ (127 x 70)mm, 6pcs									
Absorbance SC-CA (580 nm)										
Panel	BNG	BTI	KPR	KRG	LRN	MGS	RSY	SDM	WSY	YSY
P1	0.006	0.005	0.004	0.005	0.007	0.006	0.005	0.005	0.006	0.007
P2	0.006	0.005	0.004	0.005	0.006	0.006	0.005	0.005	0.006	0.007
P3	0.006	0.005	0.004	0.005	0.007	0.006	0.005	0.005	0.006	0.007
P4	0.005	0.005	0.004	0.005	0.006	0.006	0.005	0.005	0.006	0.007
P5	0.006	0.005	0.004	0.006	0.007	0.007	0.005	0.005	0.006	0.007
Formaldehyde emission SC-CA (µg/mL)										
P1	0.0034	0.0018	0.0015	0.0022	0.0030	0.0023	0.0015	0.0019	0.0025	0.0026
P2	0.0031	0.0020	0.0016	0.0020	0.0026	0.0026	0.0015	0.0017	0.0025	0.0027
P3	0.0036	0.0020	0.0013	0.0022	0.0031	0.0027	0.0016	0.0018	0.0026	0.0027
P4	0.0027	0.0018	0.0015	0.0023	0.0028	0.0026	0.0015	0.0020	0.0026	0.0028
P5	0.0032	0.0020	0.0015	0.0027	0.0032	0.0029	0.0014	0.0018	0.0025	0.0027
Mean	0.003	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.003	0.003
SD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Co-v	0.11	0.06	0.07	0.11	0.08	0.08	0.03	0.05	0.03	0.03
RSD	10.6%	6.1%	7.2%	11.1%	7.6%	8.3%	3.0%	4.7%	3.3%	3.1%

Item/ Size/ MC	Solid wood/ 2.5 mm/ MC6 %									
Method/ Standard/ Specimens	SPME-A (24 hr, 20 °C)/ JAS 233/ (150 x 50)mm, 10pcs									
Peak Area SPME-A (RT=7.5 min)										
Panel	BNG	BTI	KPR	KRG	LRN	MGS	RSY	SDM	WSY	YSY
P1	90230	56700	26817	46825	77451	60019	42028	49509	61272	69087
P2	91507	57111	25674	47274	80898	60492	42455	49981	64626	72612
P3	92303	58439	26914	47736	83030	60821	42947	49984	66550	74084
P4	90611	59226	31766	48511	84228	61217	45139	50306	66768	77158
Formaldehyde emission SPME-A (mg/L)										
P1	0.035	0.024	0.014	0.021	0.031	0.025	0.019	0.022	0.025	0.028
P2	0.035	0.024	0.014	0.021	0.032	0.025	0.019	0.022	0.026	0.029
P3	0.035	0.024	0.014	0.021	0.032	0.025	0.019	0.022	0.027	0.029
P4	0.035	0.025	0.016	0.021	0.033	0.025	0.020	0.022	0.027	0.030
Mean	0.04	0.02	0.01	0.02	0.03	0.03	0.02	0.02	0.03	0.03
SD	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.001	0.001
Co-v	0.01	0.02	0.06	0.01	0.03	0.01	0.02	0.00	0.03	0.04
RSD	0.9%	1.6%	6.1%	1.1%	3.0%	0.7%	2.3%	0.5%	3.1%	3.7%

Appendix E
Raw Data and Summary of Solid Wood Formaldehyde Emission (Timber Wood Species)

Item/ Size/ MC		Solid wood/ 2.5 mm/ MC6 %								
Method/ Standard/ Specimens		LLE-FID/ EPA 556/ (150 x 50)mm, 10pcs								
Panel	Peak Area LLE-FID (RT=12 min)									
	BNG	BTI	KPR	KRG	LRN	MGS	RSY	SDM	WSY	YSY
P1	8249	5195	2248	3709	7738	5386	3015	3958	6368	7341
P2	8458	5271	2323	3778	7797	5592	3303	4025	6675	7494
P3	8691	5068	2441	3834	7963	5821	3418	4381	6982	7543
P4	8928	5314	2657	3903	8035	6064	3556	4678	7253	7651
Formaldehyde emission LLE-FID (mg/L)										
P1	0.043	0.026	0.009	0.017	0.040	0.027	0.013	0.019	0.032	0.038
P2	0.044	0.026	0.009	0.018	0.040	0.028	0.015	0.019	0.034	0.039
P3	0.045	0.025	0.010	0.018	0.041	0.029	0.016	0.021	0.036	0.039
P4	0.047	0.026	0.011	0.018	0.042	0.031	0.016	0.023	0.037	0.039
Mean	0.04	0.03	0.01	0.02	0.04	0.03	0.02	0.02	0.03	0.04
SD	0.002	0.001	0.001	0.000	0.001	0.002	0.001	0.002	0.002	0.001
Co-v	0.04	0.02	0.10	0.03	0.02	0.06	0.09	0.09	0.06	0.02
RSD	3.7%	2.4%	10.1%	2.6%	1.9%	5.8%	8.6%	9.3%	6.2%	1.9%

Summary:

Plywood	Formaldehyde Emission (ppm)				Relative Standard Deviation, RSD (%)			
	DC-AA	SC-CA	SPME-A	LLE-FID	DC-AA	SC-CA	SPME-A	LLE-FID
BNG	0.03	0.003	0.04	0.04	5.2%	10.6%	0.9%	3.7%
BTI	0.02	0.002	0.02	0.03	6.4%	6.1%	1.6%	2.4%
KPR	0.01	0.002	0.01	0.01	9.2%	7.2%	6.1%	10.1%
KRG	0.02	0.002	0.02	0.02	9.5%	11.1%	1.1%	2.6%
LRN	0.03	0.003	0.03	0.04	4.7%	7.6%	3.0%	1.9%
MGS	0.02	0.003	0.03	0.03	6.6%	8.3%	0.7%	5.8%
RSY	0.01	0.002	0.02	0.02	8.8%	3.0%	2.3%	8.6%
SDM	0.02	0.002	0.02	0.02	9.1%	4.7%	0.5%	9.3%
WSY	0.02	0.003	0.03	0.03	4.8%	3.3%	3.1%	6.2%
YSY	0.03	0.003	0.03	0.04	5.4%	3.1%	3.7%	1.9%