

APPENDIX A

This appendix consists of a series of tables that illustrate how the candidate emission factors were developed for particleboard manufacturing. Tables A-1 to A-3 address PM emissions from particleboard dryers. Table A-4 presents the calculations for VOC emissions from dryers. Factors for emissions of CO and CO₂ from dryers are addressed in Table A-5, and Table A-6 addresses factors for dryer NO_x and SO₂ emissions. The calculations of the candidate factors for emissions of speciated organics are presented in Table A-7. Tables A-8 and A-9 summarize the calculations for particleboard presses and board coolers, respectively.

The tables are organized similarly. Each line (row) represents the results from a single emission test. The test and unit codes provided in the tables match those specified in the NCASI data base. For data derived from any of the other references, the test and unit codes indicate the reference number and an arbitrarily designated source number (e.g., 1-1 for Reference 1, dryer or press No. 1). The data (table rows) are grouped according to the general criteria described in Section 4.3 of this report. Below each set of data that were grouped, the average, minimum, and maximum emission factors are indicated (labeled as "Ave.", "Min.", and "Max.", respectively). The entries labeled "Ave." are the candidate emission factors presented in Chapter 4 of this report and the AP-42 section. For data groups that consist of the results of only one test, the entries for minimum and maximum factors are omitted. For those groups that include the results of five or more tests, the standard deviation of the factors (labeled as "SD") also is provided below the maximum factor for the group. A horizontal line below each group separates that group from the subsequent group. Data sets that were not used are indicated by shading, and the reason for excluding the data is provided in the comment column of the table.

It should be noted that a number of the data sets are repeated because they were used to calculate more than one candidate emission factor. For example, the data for cyclone-controlled PM emissions from dryers that corresponds to Test Code 045-041593B was used to develop the candidate factors for the drying of Southern yellow pine and unspecified pines.

TABLE A-1. SUMMARY OF PARTICLEBOARD DRYER EMISSION FACTOR CALCULATIONS--CYCLONE CONTROLLED FILTERABLE PM (a)

Test Code	Unit code	Pollutant	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secn.	%	inlet	outlet	inlet	outlet					
043-0421922D043 PM			DFIRE WREF	SY PINI	100	NA			18.0	5.1	NS	NS	CYC	3	0.82	A	Predried material; data not used.
043-0421921D043 PM			DFIRE WREF	SY PINI	100	NA			18.0	6.0	NS	NS	CYC	3	1.07	A	Predried material; data not used.
045-0415932D045 PM			DFIRE SDUS1	SY PINI	98	HWOOI	2	12.0	4.7	490	140	CYC	2	11.1		B	
045-0415931D045 PM			DFIRE SDUS1	SY PINI	98	HWOOI	2	12.8	6.6	220	116	CYC	2	4.81		B	
Filterable PM, direct wood-fired, Southern yellow pine														CYC	Ave.	8.0	
															Max.	11	
															Min.	4.8	
045-0415932D045 PM			DFIRE SDUS1	SY PINI	98	HWOOI	2	12.0	4.7	490	140	CYC	2	11.1		B	
045-0415931D045 PM			DFIRE SDUS1	SY PINI	98	HWOOI	2	12.8	6.6	220	116	CYC	2	4.81		B	
167-0622882D167 PM			DFIRE SDUS1	PINE SP	75	HWOOI	25	6.8	5.4	115	100	CYC	3	0.79		A	
030-0120932D030 PM			DFIRE WREF	PINE SP	95	HWOOI	5	21.2	5.7	404	160	CYC	3	3.69		A	
030-0119931D030 PM			DFIRE WREF	PINE SP	95	HWOOI	5	20.3	7.9	219	121	CYC	3	1.18		A	
4-1 3D228 PM			DFIRE SDUS1	PINE SP	100	NA			NS	2	1075	270	CYC	3	1.9		B
Filterable PM, direct wood-fired, pines														CYC	Ave.	3.9	
															Min.	0.79	
															Max.	11	
															SD	3.8	
202-0713932D202 PM			BOTH NGAS	PINE SP	75	DFIR	10	8.0	3.1	NS	NS	CYC	2	1.69		B	
202-0713931D202 PM			BOTH NGAS	PINE SP	75	DFIR	10	8.0	3.2	NS	NS	CYC	2	0.91		B	
Filterable PM, natural gas-fired, pines														CYC	Ave.	1.3	
															Min.	0.91	
															Max.	1.7	
022-1026891D022 PM			DFIRE NS	PINE SP	95	HWOOI	5	NS	NS	NS	NS	CYC	2			NR	Discarded--unrated data
022-1026892D022 PM			DFIRE NS	PINE SP	95	HWOOI	5	NS	NS	NS	NS	CYC	2			NR	Discarded--unrated data
1-1 PM			DFIRE NGAS	OAK	86	SWOOI	14	7.8	4.6	218	117	CYC	3	10		A	Data not used; See report.
167-0825892D167 PM			DFIRE SDUS1	HWOOI	100	NA			40.6	4.3	666	202	CYC	2	2.72		B
167-1022883D167 PM			DFIRE SDUS1	HWOOI	100	NA			37.0	2.5	777	219	CYC	2	2.29		B
Filterable PM, direct wood-fired, hardwoods														CYC	Ave.	2.5	
															Min.	2.3	
															Max.	2.7	
167-1022883D167 PM			DFIRE SDUS1	HWOOI	100	NA			40.0	2.4	750	218	CYC	1	5.17	D	Discarded--rated D
166-1006922D166 PM			DFIRE SDUS1	NS		NS			21.5	6.0	299	141	CYC	2	6.50	B	Partially dried material; data not
166-1006922D166 PM			DFIRE SDUS1	NS		NS			17.3	6.1	249	133	CYC	2	3.52	B	Partially dried material; data not
166-1002925D166 PM			DFIRE NGAS	NS		NS			11.5	4.3	296	202	CYC	3	1.48	B	Predried material; data not used.

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
5-1	1D228 PM	DFIRE SDUST	PINE SP	60	HWOOI	40	NS	NS	750	200	CYC	3	2.3	B			
Filterable PM, direct wood-fired, mixed wood species					NOT REPORTED IN AP-42								Ave.	2.3			
6-1	XD167 PM	DFIRE SDUST	NS	NS	NS	35.4	2.8	903	204	CYC	3	2.2	B	Not used--unspecified wood spec			
166-1001921D166 PM	DFIRE SDUST	NS	NS	21.9	3.6	521	183	CYC	3	2.70	A	Not used--unspecified wood spec					
166-1001921D166 PM	DFIRE SDUST	NS	NS	31.8	2.2	502	187	CYC	3	2.67	A	Not used--unspecified wood spec					
022-1026891D022 PM	DFIRE NS	PINE SP	95	HWOOI	5	NS	NS	NS	CYC	2	NR	Discarded--unrated data					
022-1026892D022 PM	DFIRE NS	PINE SP	95	HWOOI	5	NS	NS	NS	CYC	2	NR	Discarded--unrated data					
167-1022883D167 PM	DFIRE SDUST	HWOOI	100	NA	40.0	2.4	750	218	CYC	1	5.17	D	Discarded--rated D				

(a) NS = not specified; NA = not applicable; NR = not rated.

(b) Pollutant codes identified in Table 4-6.

(c) Firing types: DFIRE = direct firing; BOTH = both direct-fired and indirect heat.

(d) Fuel types: SDUST = sanderdust; WREF = wood refuse; NGAS = natural gas.

(e) Wood species: SY PINE = Southern yellow pine; PINE SP = unknown pine species; HWOOD = unspecified hardwood species; DFIR = Douglas fir; OAK = oak; SWOOD = unspecified softwood species.

(f) Emission control device: CYC = cyclone.

TABLE A-2. SUMMARY OF PARTICLEBOARD DRYER PM EMISSION FACTOR CALCULATIONS--FILTERABLE PM WITH CONTROLS OTHER

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
228-09169	3D228	PM	DFIRE	SDUS1	PINE SI	100	NA	####	2.2	990	260	270	EFB	2	1.5	B	
4-2	3D228	PM	DFIRE	SDUS1	PINE SI	100	NA	NS	2	1075	270	270	EFB/FF	3	0.20	B	
EFB-controlled filterable PM, direct wood-fired, pines														Ave.	0.85		
														Min.	0.20		
														Max.	1.5		
202-08178	XD202	PM	BOTH	NGAS	PINE SI	75	DFIR	10	NS	NS	NS	NS	EFB	3	0.14	A	
EFB-controlled filterable PM, natural gas-fired, pines														Ave.	0.14		
167-09189	4D167	PM	DFIRE	SDUS1	HWO	100	NA		36.3	3.0	870	204	EFB	4	0.21	A	
167-09199	4D167	PM	DFIRE	SDUS1	HWO	100	NA		35.0	2.9	722	NS	EFB	2	0.16	B	
167-10209	4D167	PM	DFIRE	SDUS1	HWO	100	NA		36.3	3.3	921	201	EFB	3	0.19	A	
167-10209	4D167	PM	DFIRE	SDUS1	HWO	100	NA		40.3	3.2	888	203	EFB	3	0.21	A	
EFB-controlled filterable PM, direct wood-fired, hardwoods														Ave.	0.19		
														Min.	0.16		
														Max.	0.21		
167-10239	5D167	PM	DFIRE	SDUS1	HWO	65	PINE SP	35	34.0	4.7	822	229	EFB	3	0.20	A	
167-10049	5D167	PM	DFIRE	SDUS1	HWO	65	PINE SP	35	31.5	4.2	978	228	EFB	4	0.40	A	
228-09169	1D228	PM	DFIRE	SDUS1	PINE SI	60	HWO	40	85.2	6.6	730	230	EFB	2	0.27	B	
5-2	1D228	PM	DFIRE	SDUS1	PINE SI	60	HWO	40	NS	NS	750	200	EFB/FF	3	0.15	B	
EFB-controlled filterable PM, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.26		
														Min.	0.15		
														Max.	0.40		
166-09289	3D166	PM	DFIRE	NS	DFIR	NS	HEM	NS	####	22.5	871	193	EFB	3	1.18	A	Rotary predryer
166-09299	4D166	PM	DFIRE	NS	DFIR	NS	HEM	NS	####	24.7	854	175	EFB	3	0.74	A	Rotary predryer
EFB-controlled filterable PM, direct wood-fired, mixed wood species (rotary NOT REPORTED IN AP-42														Ave.	0.96		
														Min.	0.74		
														Max.	0.26		
4-2	3D228	PM	DFIRE	SDUS1	PINE SI	100	NA	NS	2	1075	270	270	FF	3	1.40	B	
Fabric filter-controlled filterable PM, direct wood-fired, pines														Ave.	1.4		
4-1	1D228	PM	DFIRE	SDUS1	PINE SI	60	HWO	40	NS	2	750	200	FF	3	1.30	B	
Fabric filter-controlled filterable PM, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	1.3		
7-1	XD167	PM	DFIRE	SDUS1	NS	NS	NS	NS	35.4	2.8	903	204	EFB	3	0.23	B	Unspecified wood species
182-09088	2D182	PM	DFIRE	SDUS1	DFIR	90	UWO	10	13.0	2.9	498	290	INC	3	0.22	A	Tube final dryer
Incineration-controlled filterable PM, direct wood-fired, Douglas fir (tube final dryer)														Ave.	0.22		
1-2		PM	DFIRE	NGAS	OAK	86	SWO	14	7.8	4.6	218	117	MCLO	3	6.4	A	Data not used; see report

TABLE A-2. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
182-10058	1D182	PM	DFIRE	SDUST	DFIR	90	UWOOI	10	NS	NS	NS	NS	MCLO	3	0.68	A	Rotary predryer
182-09068	1D182	PM	DFIRE	SDUST	DFIR	90	UWOOI	10	51.3	13.0	540	138	MCLO	3	1.02	A	Rotary predryer
182-09068	1D182	PM	DFIRE	SDUST	DFIR	90	UWOOI	10	51.3	13.0	540	138	MCLO	3	0.50	A	Rotary predryer
MCLO-controlled filterable PM, direct wood-fired, Douglas fir (rotary predryer)														Ave.	0.74		
														Min.	0.50		
														Max.	1.0		
228-09159	3D228	PM	DFIRE	SDUST	PINE SI	100	NA		####	2.2	990	260	MCLO	3	2.5	A	
MCLO-controlled filterable PM, direct wood-fired, pines														Ave.	2.5		
167-10058	3D167	PM	DFIRE	SDUST	HWOOD	100	NA		37.0	2.3	730	215	MCLO	3	2.86	A	
167-08218	3D167	PM	DFIRE	SDUST	HWOOD	100	NA		38.0	2.3	710	212	MCLO	3	1.44	A	
MCLO-controlled filterable PM, direct wood-fired, hardwoods														Ave.	2.1		
														Min.	1.4		
														Max.	2.9		
167-10258	3D167	PM	DFIRE	SDUST	HWOOD	100	NA		42.5	2.5	862	223	MCLO	2	3.83	B	Discarded--suspect
228-09169	1D228	PM	DFIRE	SDUST	PINE SI	60	HWOOI	40	85.2	6.6	730	230	MCLO	3	2.0	A	
MCLO-controlled filterable PM, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	2.0		
167-06198	3D167	PM	DFIRE	SDUST	HWOOD	100	NA		45.0	3.0	810	NS	MCLO	1	2.26	D	Discarded--rated D
167-06198	3D167	PM	DFIRE	SDUST	HWOOD	100	NA		45.0	3.0	800	NS	MCLO	1	0.99	D	Discarded--rated D
167-06228	1D167	PM	DFIRE	SDUST	ASPEN	NS	HWOOI	NS	31.2	3.7	593	216	PBA	3	0.60	A	
167-08238	1D167	PM	DFIRE	SDUST	ASPEN	100	NS		40.4	3.7	698	232	PBA	3	1.26	A	
PBA-controlled filterable PM, direct wood-fired, hardwoods														Ave.	0.93		
														Min.	0.60		
														Max.	1.3		
182-10058	1D182	PM	DFIRE	SDUST	DFIR	90	UWOOI	10	NS	NS	NS	NS	WESP	3	0.063	A	Rotary predryer
182-09068	1D182	PM	DFIRE	SDUST	DFIR	90	UWOOI	10	51.3	13.0	540	138	WESP	3	0.16	A	Rotary predryer
WESP-controlled filterable PM, direct wood-fired, Douglas fir (rotary predryer)														Ave.	0.11		
														Min.	0.063		
														Max.	0.16		

(a) NS = not specified; NA = not applicable.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing types: DFIRE = direct fired; BOTH = both direct-fired and indirect heated.

(d) Fuel types: SDUST = sanderdust; NGAS = natural gas.

(e) Wood species: PINE SP = unknown pine species; HWOOD = unspecified hardwood species; DFIR = Douglas fir; SWOOD = unspecified softwood species; OAK = oak; UWOOD = wood from an urban recycling plant.

(f) Emission control device: EFB = electrified filter bed; FF = fabric filter; INC = incinerator; MCLO = multiclone; PBA = packed bed absorber; WESP = wet electrostatic precipitator.

TABLE A-3. SUMMARY OF PARTICLEBOARD DRYER EMISSION FACTOR CALCULATIONS--PM-10 AND CPM(a)

Test Code	Unit code	Pollutant(t)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
045-04159:2D045	PM-10	DFIRE	SDUST SY	PINI	98	HWOOI	2	12.0	4.7	490	140	CYC	2	1.140	B		
045-04159:1D045	PM-10	DFIRE	SDUST SY	PINI	98	HWOOI	2	12.8	6.6	220	116	CYC	2	0.654	B		
PM-10, direct wood-fired, Southern yellow pine													Ave.	0.90			
													Min.	0.65			
													Max.	1.1			
045-04159:2D045	PM-10	DFIRE	SDUST SY	PINI	98	HWOOI	2	12.0	4.7	490	140	CYC	2	1.140	B		
045-04159:1D045	PM-10	DFIRE	SDUST SY	PINI	98	HWOOI	2	12.8	6.6	220	116	CYC	2	0.654	B		
030-01209:2D030	PM-10	DFIRE	WREF	PINE SF	95	HWOOI	5	21.6	6.5	421	160	CYC	3	0.801	A		
030-01199:1D030	PM-10	DFIRE	WREF	PINE SF	95	HWOOI	5	19.2	7.7	240	125	CYC	3	0.184	A		
PM-10, direct wood-fired, pines													Ave.	0.69			
													Min.	0.18			
													Max.	1.1			
1-1	PM-10	DFIRE	NGAS	OAK	86	SWOOI	14	6.7	4.6	Q	117	CYC	3	3.1	C	Not used; see report.	
228-09169:3D228	PM-10	DFIRE	SDUST PINE	SF	100	NA		####	2.2	990	260	EFB	3	0.641	A		
EFB-controlled PM-10, direct wood-fired, pines													Ave.	0.64			
039-08279:1D039	PM-10	DFIRE	WREF	HWOOI	55	SWOOI	45	95.0	65.0	691	180	EFB	3	0.050	A		
228-09169:1D228	PM-10	DFIRE	SDUST PINE	SF	60	HWOOI	40	85.2	6.6	730	230	EFB	3	0.163	A		
EFB-controlled PM-10, direct wood-fired, mixed wood species													Ave.	0.11			
NOT REPORTED IN AP-42													Min.	0.050			
													Max.	0.16			
1-1	PM-10	DFIRE	NGAS	OAK	86	SWOOI	14	6.7	4.6	218	117	MCLO	3	1.6	C	Data not used; see report.	
1-2	PM-2.5	DFIRE	NGAS	OAK	86	SWOOI	14	6.7	4.6	218	117	CYC	3	1.6	C	Data not used; see report.	
1-1	PM-2.5	DFIRE	NGAS	OAK	86	SWOOI	14	6.7	4.6	218	117	CYC	3	2.5	C	Data not used; see report.	
1-1	PM-1.0	DFIRE	NGAS	OAK	86	SWOOI	14	6.7	4.6	218	117	CYC	3	2.0	C	Data not used; see report.	
1-2	PM-1.0	DFIRE	NGAS	OAK	86	SWOOI	14	6.7	4.6	218	117	CYC	3	0.86	C	Data not used; see report.	
045-04159:2D045	CPM	DFIRE	SDUST SY	PINI	98	HWOOI	2	12.0	4.7	490	140	CYC	2	0.344	B		
045-04159:1D045	CPM	DFIRE	SDUST SY	PINI	98	HWOOI	2	12.8	6.6	220	116	CYC	2	0.508	B		
167-06228:2D167	CPM	DFIRE	SDUST PINE	SF	75	HWOOI	25	6.8	5.4	115	100	CYC	3	0.021	A		
030-01199:1D030	CPM	DFIRE	WREF	PINE SF	95	HWOOI	5	20.3	7.9	219	121	CYC	3	0.019	A		
030-01209:2D030	CPM	DFIRE	WREF	PINE SF	95	HWOOI	5	21.2	5.7	404	160	CYC	3	0.089	A		
4-1	3D228	CPM	DFIRE	SDUST PINE	SF	100	NA		NS	2	1075	270	CYC	3	0.83	B	
Condensible PM, direct wood-fired, pines													Ave.	0.30			
													Min.	0.019			
													Max.	0.83			
													SD	0.32			
1-1	CPM	DFIRE	NGAS	OAK	86	SWOOI	14	7.8	4.6	218	117	CYC	3	0.12	A	Data not used; see report.	

TABLE A-3. (Continued)

TABLE 1-3. (Continued)																	
Test Code	Unit code	Pollutant(s)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
045-04159:2D045	CPM	DFIRE	SDUST SY	PINI	98	HWOOI	2	12.0	4.7	490	140	CYC	2	0.344	B		
045-04159:1D045	CPM	DFIRE	SDUST SY	PINI	98	HWOOI	2	12.8	6.6	220	116	CYC	2	0.508	B		
Condensible PM, direct wood-fired, Southern yellow pine													Ave.	0.43			
													Min.	0.34			
													Max.	0.51			
167-08258:2D167	CPM	DFIRE	SDUST HWOOI	100	NA			40.6	4.3	666	202	CYC	2	0.130	B		
Condensible PM, direct wood-fired, hardwoods													Ave.	0.13			
166-10069:2D166	CPM	DFIRE	SDUST NS		NS			17.3	6.1	249	133	CYC	2	0.106	B	Partially dried material; data not available	
166-10069:2D166	CPM	DFIRE	SDUST NS		NS			21.5	6.0	299	141	CYC	2	0.076	B	Partially dried material; data not available	
166-10029:5D166	CPM	DFIRE	NGAS NS		NS			11.5	4.3	296	202	CYC	3	0.131	B	Partially dried material; data not available	
5-1	1D228	CPM	DFIRE	SDUST PINE SF	60	HWOOI	40	NS	NS	750	200	CYC	3	1.10	B		
Condensible PM, direct wood-fired, mixed wood species													Ave.	1.1			
6-1	XD167	CPM	DFIRE	SDUST NS		NS	NS	35.4	2.8	903	204	CYC	3	0.060	B	Not used--unspecified wood species	
166-10019:1D166	CPM	DFIRE	SDUST NS		NS			31.8	2.2	502	187	CYC	3	0.524	A		
166-10019:1D166	CPM	DFIRE	SDUST NS		NS			21.9	3.6	521	183	CYC	3	0.386	A		
228-09159:3D228	CPM	DFIRE	SDUST PINE SF	100	NA			####	2.2	990	260	EFB	3	1.763	A		
4-2	3D228	CPM	DFIRE	SDUST PINE SF	100	NA		NS	2	1075	270	EFB/FF	3	0.84	B		
EFB-controlled condensible PM, direct wood-fired, pines													Ave.	1.3			
													Min.	0.84			
													Max.	1.8			
202-08178:XD202	CPM	BOTH	NGAS PINE SF	75	DFIR	10	NS	NS	NS	NS	NS	EFB	3	0.064	A		
EFB-controlled condensible PM, natural gas-fired, pines													EFB	Ave.	0.064		
167-10209:4D167	CPM	DFIRE	SDUST HWOOI	100	NA			36.3	3.3	921	201	EFB	3	0.095	A		
167-10209:4D167	CPM	DFIRE	SDUST HWOOI	100	NA			40.3	3.2	888	203	EFB	3	0.072	A		
167-09189:4D167	CPM	DFIRE	SDUST HWOOI	100	NA			36.3	3.0	870	204	EFB	4	0.135	A		
167-09199:4D167	CPM	DFIRE	SDUST HWOOI	100	NA			35.0	2.9	722	NS	EFB	2	0.046	B		
EFB-controlled condensible PM, direct wood-fired, hardwoods													Ave.	0.087			
													Min.	0.046			
													Max.	0.13			
228-09169:1D228	CPM	DFIRE	SDUST PINE SF	60	HWOOI	40	85.2	6.6	730	230	EFB	3	0.661	A			
167-10049:5D167	CPM	DFIRE	SDUST HWOOI	65	PINE SF	35	31.5	4.2	978	228	EFB	4	0.265	A			
167-10239:5D167	CPM	DFIRE	SDUST HWOOI	65	PINE SF	35	34.0	4.7	822	229	EFB	3	0.184	A			
5-2	1D228	CPM	DFIRE	SDUST PINE SF	60	HWOOI	40	NS	NS	750	200	EFB/FF	3	0.72	B		
EFB-controlled condensible PM, direct wood-fired, mixed wood species													Ave.	0.46			
													Min.	0.18			
													Max.	0.72			

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(s)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments	
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet						
166-09289:3D166	CPM	DFIRE	SDUST	DFIR	NS	HEM	NS	####	22.5	871	193	EFB	3	0.456	A	Rotary predryer		
166-09299:4D166	CPM	DFIRE	SDUST	DFIR	NS	HEM	NS	####	24.7	854	175	EFB	3	0.235	A	Rotary predryer		
EFB-controlled condensible PM, direct wood-fired, softwoods (rotary p													Ave.	0.35				
													Min.	0.24				
													Max.	0.46				
7-1	XD167	CPM	DFIRE	SDUST	NS	NS	NS	NS	35.4	2.8	903	204	EFB	3	0.166	B	Not used--unspecified wood spe	
7-1	XD167	CPM	DFIRE	SDUST	NS	NS	NS	NS	35.4	2.8	903	204	EFB	3	0.17	B	Not used--unspecified wood spe	
4-3	3D228	CPM	DFIRE	SDUST	PINE	SF	100	NA	NS	2	1075	270	FF	3	0.97	B		
Fabric filter-controlled condensible PM, direct wood-fired, pines													Ave.	0.97				
4-4	1D228	CPM	DFIRE	SDUST	PINE	SF	60	HWOOI	40	NS	2	750	200	FF	3	0.43	B	
Fabric filter-controlled condensible PM, direct wood-fired, mixed wood													Ave.	0.43				
182-09088:2D182	CPM	DFIRE	SDUST	DFIR	90	UWOOI	10	13.0	2.9	498	290	INC	3	0.015	A	Tube final dryer		
Incineration-controlled condensible PM, direct wood-fired, Douglas fir (tube final dryer)													Ave.	0.015				
1-2	CPM	DFIRE	NGAS	OAK	86	SWOOI	14	7.8	4.6	218	117	MCLO	3	0.39	A	Data not used; see report.		
167-08218:3D167	CPM	DFIRE	SDUST	HWOOI	100	NA		38.0	2.3	710	212	MCLO	3	0.048	A			
167-10058:3D167	CPM	DFIRE	SDUST	HWOOI	100	NA		37.0	2.3	730	215	MCLO	3	0.207	A			
Multiclone-controlled condensible PM, direct wood-fired, hardwoods													Ave.	0.13				
													Min.	0.048				
													Max.	0.21				
167-10258:3D167	CPM	DFIRE	SDUST	HWOOI	100	NA		42.5	2.5	862	223	MCLO	2	0.424	B	Discarded--suspect		
167-06198:3D167	CPM	DFIRE	SDUST	HWOOI	100	NA		45.0	3.0	800	NS	MCLO	1	0.159	D	Discarded--rated D		
167-06198:3D167	CPM	DFIRE	SDUST	HWOOI	100	NA		45.0	3.0	810	NS	MCLO	1	0.122	D	Discarded--rated D		
167-08238:1D167	CPM	DFIRE	SDUST	ASPEN	100	NA		40.4	3.7	698	232	PBA	3	0.023	A			
167-06228:1D167	CPM	DFIRE	SDUST	ASPEN	NS	HWOOI	NS	31.2	3.7	593	216	PBA	3	0.025	A			
PBA-controlled condensible PM, direct wood-fired, hardwoods													Ave.	0.024				
													Min.	0.023				
													Max.	0.025				
182-09068:1D182	CPM	DFIRE	SDUST	DFIR	90	UWOOI	10	51.3	13.0	540	138	WESP	3	0.195	A	Rotary predryer		
182-09068:1D182	CPM	DFIRE	SDUST	DFIR	90	UWOOI	10	51.3	13.0	540	138	WESP	3	0.389	A	Rotary predryer		
182-09068:1D182	CPM	DFIRE	SDUST	DFIR	90	UWOOI	10	51.3	13.0	540	138	WESP	3	0.048	A	Rotary predryer		
182-10058:1D182	CPM	DFIRE	SDUST	DFIR	90	UWOOI	10	NS	NS	NS	NS	WESP	3	0.039	A	Rotary predryer		
182-10058:1D182	CPM	DFIRE	SDUST	DFIR	90	UWOOI	10	NS	NS	NS	NS	WESP	3	0.075	A	Rotary predryer		
WESP-controlled condensible PM, direct wood-fired, Douglas fir (rotary predryer)													Ave.	0.15				
													Min.	0.039				
													Max.	0.39				
													SD	0.15				

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(s)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
ESTIMATE OF ORGANIC AND INORGANIC FRACTION OF CONDENSIBLE PM																	
6-1	XD167	CPM	DFIRE	SDUST	NS	NS	NS	NS	35.4	2.8	903	204	CYC	3	0.060	B	
6-1	XD167	CPM-I	DFIRE	SDUST	NS	NS	NS	NS	35.4	2.8	903	204	CYC	3	0.045	B	
6-1	XD167	CPM-O	DFIRE	SDUST	NS	NS	NS	NS	35.4	2.8	903	204	CYC	3	0.015	B	
									Inorg. #####		Org.: #####						
5-1	1D228	CPM	DFIRE	SDUST	PINE	SF	60	HWOOI	40	NS	NS	750	200	CYC	3	1.10	B
5-1	1D228	CPM-I	DFIRE	SDUST	PINE	SF	60	HWOOI	40	NS	NS	750	200	CYC	3	0.80	B
5-1	1D228	CPM-O	DFIRE	SDUST	PINE	SF	60	HWOOI	40	NS	NS	750	200	CYC	3	0.30	B
									Inorg. #####		Org.: #####						
4-1	3D228	CPM	DFIRE	SDUST	PINE	SF	100	NA		NS	2	1075	270	CYC	3	0.83	B
4-1	3D228	CPM-I	DFIRE	SDUST	PINE	SF	100	NA		NS	2	1075	270	CYC	3	0.48	B
4-1	3D228	CPM-O	DFIRE	SDUST	PINE	SF	100	NA		NS	2	1075	270	CYC	3	0.35	B
									Inorg. #####		Org.: #####						
7-1	XD167	CPM	DFIRE	SDUST	NS	NS	NS	NS	35.4	2.8	903	204	EFB	3	0.17	B	
7-1	XD167	CPM-I	DFIRE	SDUST	NS	NS	NS	NS	35.4	2.8	903	204	EFB	3	0.11	B	
7-1	XD167	CPM-O	DFIRE	SDUST	NS	NS	NS	NS	35.4	2.8	903	204	EFB	3	0.06	B	
									Inorg. #####		Org.: #####						
4-2		CPM	DFIRE	SDUST	NS	NS	NS	NS	NS	2	1075	270	EFB/FF	3	0.84	B	
4-2		CPM-I	DFIRE	SDUST	NS	NS	NS	NS	NS	2	1075	270	EFB/FF	3	0.46	B	
4-2		CPM-O	DFIRE	SDUST	NS	NS	NS	NS	NS	2	1075	270	EFB/FF	3	0.38	B	
									Inorg. #####		Org.: #####						
5-2	1D228	CPM	DFIRE	SDUST	PINE	SF	60	HWOOI	40	NS	NS	750	200	EFB/FF	3	0.72	B
5-2	1D228	CPM-I	DFIRE	SDUST	PINE	SF	60	HWOOI	40	NS	NS	750	200	EFB/FF	3	0.43	B
5-2	1D228	CPM-O	DFIRE	SDUST	PINE	SF	60	HWOOI	40	NS	NS	750	200	EFB/FF	3	0.29	B
									Inorg. #####		Org.: #####						
4-3	3D228	CPM	DFIRE	SDUST	PINE	SF	100	NA		NS	2	1075	270	FF	3	0.97	B
4-3	3D228	CPM-I	DFIRE	SDUST	PINE	SF	100	NA		NS	2	1075	270	FF	3	0.50	B
4-3	3D228	CPM-O	DFIRE	SDUST	PINE	SF	100	NA		NS	2	1075	270	FF	3	0.47	B
									Inorg. #####		Org.: #####						

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(t)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
4-4	1D228	CPM	DFIRE	SDUST	PINE SF	60	HWOOI	40	NS	2	750	200	FF	3	0.43	B	
4-4	1D228	CPM-I	DFIRE	SDUST	PINE SF	60	HWOOI	40	NS	2	750	200	FF	3	0.25	B	
4-4	1D228	CPM-O	DFIRE	SDUST	PINE SF	60	HWOOI	40	NS	2	750	200	FF	3	0.18	B	
Inorg. ##### Org.: #####																	
228-09169:1D228	CPM	DFIRE	SDUST	PINE SF	60	HWOOI	40	85.2	6.6	730	230	EFB	3	0.661	A		
228-09169:1D228	CPM-I	DFIRE	SDUST	PINE SF	60	HWOOI	40	85.2	6.6	730	230	EFB	3	0.498	A		
228-09169:1D228	CPM-O	DFIRE	SDUST	PINE SF	60	HWOOI	40	85.2	6.6	730	230	EFB	3	0.163	A		
Inorg. ##### Org.: #####																	
228-09159:3D228	CPM	DFIRE	SDUST	PINE SF	100	NA		####	2.2	990	260	EFB	3	1.763	A		
228-09159:3D228	CPM-I	DFIRE	SDUST	PINE SF	100	NA		####	2.2	990	260	EFB	3	1.179	A		
228-09159:3D228	CPM-O	DFIRE	SDUST	PINE SF	100	NA		####	2.2	990	260	EFB	3	0.584	A		
Inorg. ##### Org.: #####																	
030-01199:1D030	CPM	DFIRE	WREF	PINE SF	95	HWOOI	5	20.3	7.9	219	121	CYC	3	0.019	A		
030-01199:1D030	CPM-I	DFIRE	WREF	PINE SF	95	HWOOI	5	20.3	7.9	219	121	CYC	3	0.0084	A		
030-01199:1D030	CPM-O	DFIRE	WREF	PINE SF	95	HWOOI	5	20.3	7.9	219	121	CYC	3	0.011	A		
Inorg. ##### Org.: #####																	
030-01209:2D030	CPM	DFIRE	WREF	PINE SF	95	HWOOI	5	21.2	5.7	404	160	CYC	3	0.089	A		
030-01209:2D030	CPM-I	DFIRE	WREF	PINE SF	95	HWOOI	5	21.2	5.7	404	160	CYC	3	0.029	A		
030-01209:2D030	CPM-O	DFIRE	WREF	PINE SF	95	HWOOI	5	21.2	5.7	404	160	CYC	3	0.059	A		
Inorg. ##### Org.: #####																	

TABLE A-3. (Continued)

SUMMARY OF CONDENSIBLE PM FRACTION DATA						
CPM-I	DFIRE	SDUST	NS	NS	CYC	75.0%
CPM-I	DFIRE	SDUST	NS	NS	CYC	72.7%
CPM-I	DFIRE	SDUST	NS	NS	CYC	58.0%
					Ave.	68.6%
CPM-O	DFIRE	SDUST	NS	NS		31.4%
CPM-I	DFIRE	SDUST	NS	NS	EFB	66.4%
CPM-I	DFIRE	SDUST	NS	NS	EFB	54.8%
CPM-I	DFIRE	SDUST	NS	NS	EFB	59.7%
					Ave.	60.3%
CPM-O	DFIRE	SDUST	NS	NS		39.7%
CPM-I	DFIRE	SDUST	NS	NS	FF	51.5%
CPM-I	DFIRE	SDUST	NS	NS	FF	57.6%
					Ave.	54.6%
CPM-O	DFIRE	SDUST	NS	NS		45.5%
CPM-I	DFIRE	SDUST	PINE	SP	EFB	75.3%
CPM-I	DFIRE	SDUST	PINE	SP	EFB	66.9%
					Ave.	71.1%
CPM-O	DFIRE	SDUST	PINE	SP	EFB	28.9%
CPM-I	DFIRE	SDUST	PINE	SP	CYC	44.1%
CPM-I	DFIRE	SDUST	PINE	SP	CYC	33.0%
					Ave.	38.6%
CPM-O	DFIRE	SDUST	PINE	SP	CYC	61.5%

(a) NS = not specified; NA = not applicable.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing types: DFIRE = direct fired; BOTH = both direct-fired and indirect heated.

(d) Fuel types: SDUST = sanderdust; NGAS = natural gas.

(e) Wood species: PINE SP = unknown pine species; HWOOD = unspecified hardwood species; DFIR = Douglas fir; SWOOD = unspecified softwood species; ASPI
OAK = oak; UWOOD = wood from an urban recycling plant.

(f) Emission control device: EFB = electrified filter bed; FF = fabric filter; INC = incinerator; MCLO = multiclone; PBA = packed bed absorber;
WESP = wet electrostatic precipitator.

TABLE A-4. SUMMARY OF PARTICLEBOARD DRYER EMISSION FACTOR CALCULATIONS--VOC AS PROPANE (a)

Test Code	Unit code	Pollutant	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
045-041593 1D045 VOC		DFIRE SDUST SY PIN			98	HWOOI	2	12.8	6.6	220	116	CYC	2	1.1	B	+ FOR (0.021) - nonVOC (N	
045-041593 2D045 VOC		DFIRE SDUST SY PIN			98	HWOOI	2	12.0	4.7	490	140	CYC	2	1.0	B	+ FOR (0.021) - nonVOC (N	
VOC as propane, direct wood-fired, Southern yellow pine													Ave.	1.1			
													Min.	1.0			
													Max.	1.1			
202-071592 2D202 VOC		BOTH NGAS PINE SI			75	DFIR	10	13.5	2.0	NS	NS	CYC	3	1.0	A	+ FOR (0.058) - nonVOC (0.	
202-071592 1D202 VOC		BOTH NGAS PINE SI			75	DFIR	10	13.5	2.0	NS	NS	CYC	3	0.12	A	+ FOR (0.058) - nonVOC (0.	
202-071592 XD202 VOC		BOTH NGAS PINE SI			75	DFIR	10	13.5	2.0	NS	NS	EFB	3	1.5	A	+ FOR (0.058) - nonVOC (0.	
VOC as propane, natural gas-fired, pines													Ave.	0.90			
nonVOC = methane (0.27)													Min.	0.12			
													Max.	1.5			
045-041593 1D045 VOC		DFIRE SDUST SY PIN			98	HWOOI	2	12.8	6.6	220	116	CYC	2	1.1	B	+ FOR (0.021) - nonVOC (0.	
045-041593 2D045 VOC		DFIRE SDUST SY PIN			98	HWOOI	2	12.0	4.7	490	140	CYC	2	1.0	B	+ FOR (0.021) - nonVOC (0.	
228-091692 1D228 VOC		DFIRE SDUST PINE SI			60	HWOOI	40	85.2	6.6	730	230	EFB	3	1.5	A	+ FOR (0.030) - nonVOC (0.	
228-091692 1D228 VOC		DFIRE SDUST PINE SI			60	HWOOI	40	85.2	6.6	730	230	EFB	3	1.3	A	+ FOR (0.030) - nonVOC (0.	
030-011993 1D030 VOC		DFIRE WREF PINE SI			95	HWOOI	5	24.7	8.0	223	128	CYC	3	0.063	A	+ FOR (0.030) - nonVOC (0.	
030-012093 2D030 VOC		DFIRE WREF PINE SI			95	HWOOI	5	18.1	6.4	426	158	CYC	3	0.73	A	+ FOR (0.030) - nonVOC (0.	
VOC as propane, direct wood-fired, pines, <730F inlet air													Ave.	0.95			
nonVOC = acetone (0.0079) + methylene chloride (0.00066)													Min.	0.063			
													Max.	1.5			
													SD	0.51			
228-091492 3D228 VOC		DFIRE SDUST PINE SI			100	NA	#####		2.5	973	253	EFB	3	8.8	A	+ FOR (0.17) - nonVOC (0.1	
228-091492 3D228 VOC		DFIRE SDUST PINE SI			100	NA	#####		2.5	973	253	EFB	3	7.6	A	+ FOR (0.17) - nonVOC (0.1	
VOC as propane, direct wood-fired, pines, >900F inlet air													Ave.	8.2			
nonVOC = acetone (0.16) + methylene chloride (0.0022)													Min.	7.6			
													Max.	8.8			
1-2	VOC	DFIRE NGAS OAK			86	SWOOI	14		4.6	218	120	MCLO	7	0.26	A	Data not used; see report.	
039-102692 1D039 VOC		DFIRE WREF HWOOI			55	SWOOI	45	95.0	65.0	650	165	EFB	3	0.86	A	+ FOR (0.00017) - nonVOC	
VOC as propane, direct wood-fired, mixed wood species (pred NOT REPORTED IN AP-42													Ave.	0.86	Factor for predryer		
039-102692 5D039 VOC		DFIRE SDUST HWOOI			55	SWOOI	45	65.0	5.0	603	253	MCLO	3	1.5	A	+ FOR (0.0011) - nonVOC (I	
039-102692 YD039 VOC		DFIRE WREF HWOOI			55	SWOOI	45	65.0	5.0	571	267	MCLO	3	1.3	A	+ FOR (0.0011) - nonVOC (I	
039-102692 XD039 VOC		DFIRE WREF HWOOI			55	SWOOI	45	65.0	5.0	592	286	MCLO	3	1.6	A	+ FOR (0.0011) - nonVOC (I	
VOC as propane, direct wood-fired, mixed wood species (final NOT REPORTED IN AP-42													Ave.	1.4	Factor for final dryer		
													Min.	1.3			
													Max.	1.6			

TABLE A-4. (Continued)

Test Code	Unit code	Pollutant	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
167-091990 4D167 VOC		DFIRE SDUST HWO			100	NA			35.0	2.9	722	NS	EFB	2	0.079	B	+ FOR (N/A) - nonVOC (N/A)
167-102090 4D167 VOC		DFIRE SDUST HWO			100	NA			36.3	3.3	921	201	EFB	3	0.72	A	+ FOR (N/A) - nonVOC (N/A)
167-091890 4D167 VOC		DFIRE SDUST HWO			100	NA			36.3	3.0	870	204	EFB	4	0.21	A	+ FOR (N/A) - nonVOC (N/A)
167-102090 4D167 VOC		DFIRE SDUST HWO			100	NA			40.3	3.2	888	203	EFB	3	0.69	A	+ FOR (N/A) - nonVOC (N/A)
167-082189 3D167 VOC		DFIRE SDUST HWO			100	NA			38.0	2.3	710	212	MCLO	3	0.061	A	+ FOR (N/A) - nonVOC (N/A)
VOC as propane, direct wood-fired, hardwoods														Ave.	0.35		
(formaldehyde has not been added, but is suspected to be present, which would increase the VOC value given)														Min.	0.061		
														Max.	0.72		
														SD	0.33		
167-100490 5D167 VOC		DFIRE SDUST HWO			65	PINE SI	35	31.5	4.2	978	228	EFB	4	0.051	A	+ FOR (0.019) - nonVOC (0.019)	
VOC as propane, direct wood-fired, mixed wood species														Ave.	0.051		
nonVOC = acetone (0.023) + methylene chloride (0.0032)																	
166-100692 2D166 VOC		DFIRE SDUST NS				NS			17.3	6.1	249	133	CYC	2	0.046	C	Unusual method
166-100692 2D166 VOC		DFIRE SDUST NS				NS			21.5	6.0	299	141	CYC	2	0.079	C	Unusual method
166-100192 1D166 VOC		DFIRE SDUST NS				NS			21.9	3.6	521	183	CYC	3	0.415	C	Unusual method
166-100192 1D166 VOC		DFIRE SDUST NS				NS			31.8	2.2	502	187	CYC	3	0.268	C	Unusual method
166-100292 5D166 VOC		DFIRE NGAS NS				NS			11.5	4.3	296	202	CYC	3	0.382	C	Unusual dryer, method
166-092992 4D166 VOC		DFIRE NS NS				NS		#####	24.7		854	175	EFB	3	0.281	C	Predryer, unusual method
166-092892 3D166 VOC		DFIRE NS NS				NS		#####	22.5		871	193	EFB	2	0.384	C	Predryer, unusual method

(a) Factors on a propane basis. Factors corrected by deducting nonVOC's (acetone, methylene chloride, or methane) and adding formaldehyde where these data are available.
 NS = not specified; NA = not applicable; N/A = not available.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing types: DFIRE = direct firing; BOTH = both direct-fired and indirect heat.

(d) Fuel types: SDUST = sanderdust; WREF = wood refuse; NGAS = natural gas.

(e) Wood species: SY PINE = Southern yellow pine; PINE SP = unknown pine species; HWOOD = unspecified hardwood species; DFIR = Douglas fir; OAK = oak; SWOOD = unspecified softwood species.

(f) Emission control devices: CYC = cyclone; EFB = electrified filter bed; MCLO = multiclone.

TABLE A-5. SUMMARY OF PARTICLEBOARD DRYER EMISSION FACTOR CALCULATIONS--CO, CO2 (a)

Test Code	Unit code	Pollutant	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
182-09068:1D182 CO			DFIRE	SDUST DFIR	90	UWOOI	10	51.3	13.0	540	138		WESP	3	5.510	C	Tube predryer; CO by orsat
182-09068:1D182 CO			DFIRE	SDUST DFIR	90	UWOOI	10	51.3	13.0	540	138		WESP	3	3.547	C	Tube predryer; CO by orsat
182-09068:1D182 CO			DFIRE	SDUST DFIR	90	UWOOI	10	51.3	13.0	540	138		WESP	3	3.187	C	Tube predryer; CO by orsat
166-10069:2D166 CO			DFIRE	SDUST NS		NS		21.5	6.0	299	141		CYC	2	0.380	B	Partially dried material; data not
166-10069:2D166 CO			DFIRE	SDUST NS		NS		17.3	6.1	249	133		CYC	2	0.380	B	Partially dried material; data not
039-10269:5D039 CO			DFIRE	SDUST HWOOI	55	SWOOI	45	65.0	5.0	603	253		MCLO	3	0.729	A	Rotary final dryer
039-10269:YD039 CO			DFIRE	WREF HWOOI	55	SWOOI	45	65.0	5.0	571	267		MCLO	3	0.886	A	Rotary final dryer
039-10269:XD039 CO			DFIRE	WREF HWOOI	55	SWOOI	45	65.0	5.0	592	286		MCLO	3	0.629	A	Rotary final dryer
CO, direct wood-fired (rotary final dryer)														Ave.	0.75		
														Min.	0.63		
														Max.	0.89		
039-10269:1D039 CO			DFIRE	WREF HWOOI	55	SWOOI	45	95.0	65.0	650	165		EFB	3	0.019	A	Rotary predryer
166-09299:4D166 CO			DFIRE	SDUST NS		NS		####	24.7	854	175		EFB	3	1.040	A	Rotary predryer
166-09289:3D166 CO			DFIRE	SDUST NS		NS		####	22.5	871	193		EFB	3	1.750	A	Rotary predryer
CO, direct wood-fired (rotary predryer)														Ave.	0.94		
														Min.	0.019		
														Max.	1.8		
045-04159:1D045 CO			DFIRE	SDUST SY PINI	98	HWOOI	2	12.8	6.6	220	116		CYC	2	2.450	B	
045-04159:2D045 CO			DFIRE	SDUST SY PINI	98	HWOOI	2	12.0	4.7	490	140		CYC	2	0.480	B	
228-09159:3D228 CO			DFIRE	SDUST PINE SF	100	NA		####	2.2	990	260		EFB	3	2.823	A	
228-09169:1D228 CO			DFIRE	SDUST PINE SF	60	HWOOI	40	85.2	6.6	730	230		EFB	3	2.340	A	
156-06259:XD156 CO			DFIRE	SDUST PINE SF	15	UFIR	85	NS	NS	576	216		SF	3	0.207	A	
156-03219:XD156 CO			DFIRE	SDUST PINE SF	15	UFIR	85	NS	NS	NS	NS		SF	3	0.244	A	
167-10049:5D167 CO			DFIRE	SDUST HWOOI	65	PINE SF	35	31.5	4.2	978	228		EFB	4	0.670	A	
167-10209:4D167 CO			DFIRE	SDUST HWOOI	100	NA		40.3	3.2	888	203		EFB	3	0.874	A	
167-10258:3D167 CO			DFIRE	SDUST HWOOI	100	NA		42.5	2.5	862	223		MCLO	2	10.470	B	
167-10209:4D167 CO			DFIRE	SDUST HWOOI	100	NA		36.3	3.3	921	201		EFB	3	1.187	A	
167-10239:5D167 CO			DFIRE	SDUST HWOOI	65	PINE SF	35	34.0	4.7	822	229		EFB	3	0.503	A	
167-09189:4D167 CO			DFIRE	SDUST HWOOI	100	NA		36.3	3.0	870	204		EFB	4	0.823	A	
167-09199:4D167 CO			DFIRE	SDUST HWOOI	100	NA		35.0	2.9	722	NS		EFB	2	0.735	B	
166-10019:1D166 CO			DFIRE	SDUST NS		NS		21.9	3.6	521	183		CYC	3	1.297	A	
166-10019:1D166 CO			DFIRE	SDUST NS		NS		31.8	2.2	502	187		CYC	3	1.403	A	
030-01199:1D030 CO			DFIRE	WREF PINE SF	95	HWOOI	5	24.7	8.0	223	128		CYC	3	0.071	A	
030-01209:2D030 CO			DFIRE	WREF PINE SF	95	HWOOI	5	18.1	6.4	426	158		CYC	3	0.366	A	
CO, direct wood-fired														Ave.	1.6		
														Min.	0.071		
														Max.	10		
														SD	2.4		

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
1-2	CO		DFIRE	NGAS	OAK	86	SWOOD	14	7.3	4.6	218	120	MCLO	7	1.2	A	Data not used; see report.
166-10029;5D166	CO		DFIRE	NGAS	NS		NS		11.5	4.3	296	202	CYC	3	0.367	B	Partially dried material; data not
202-07139;1D202	CO		BOTH	NGAS	PINE SF	75	DFIR	10	8.0	3.2	NS	NS	CYC	2	0.030	B	
202-07159;XD202	CO		BOTH	NGAS	PINE SF	75	DFIR	10	13.5	2.0	NS	NS	EFB	3	0.200	A	
CO, natural gas-fired														Ave.	0.12		
														Min.	0.030		
														Max.	0.20		
202-07139;2D202	CO		BOTH	NGAS	PINE SF	75	DFIR	10	8.0	3.1	NS	NS	CYC	2	0.000	D	Discarded: rated D
4-1	3D228	CO2	DFIRE	SDUST	NS		NS	NS	NS		2 ###	270	CYC	3	570	B	
5-1	1D228	CO2	DFIRE	SDUST	NS		NS	NS	NS		750	200	CYC	3	700	B	
6-1	XD167	CO2	DFIRE	SDUST	NS		NS	NS	35.4	2.8	903	204	CYC	3	530	B	
7-1	XD167	CO2	DFIRE	SDUST	NS		NS	NS	35.4	2.8	903	204	EFB	3	400	B	
5-2	1D228	CO2	DFIRE	SDUST	NS		NS	NS	NS		750	200	EFB/FF	3	730	B	
4-2	3D228	CO2	DFIRE	SDUST	NS		NS	NS	NS		2 ###	270	EFB/FF	3	610	B	
4-4	1D228	CO2	DFIRE	SDUST	NS		NS	NS	NS		2 750	200	FF	3	330	B	
4-3	3D228	CO2	DFIRE	SDUST	NS		NS	NS	NS		2 ###	270	FF	3	660	B	
CO2, direct wood-fired														Ave.	566		
														Min.	330		
														Max.	730		
														SD	142		

(a) NS = not specified; NA = not applicable.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing types: DFIRE = direct firing; BOTH = both direct-fired and indirect heat.

(d) Fuel types: SDUST = sanderdust; WREF = wood refuse; NGAS = natural gas.

(e) Wood species: DFIR = Douglas fir; UWOOD = wood from urban recycling plant; HWOOD = unspecified hardwood species; SWOOD = unspecified softwood species; SY PINE = Southern yellow pine; PINE SP = unknown pine species; UFIR = unspecified fir species; OAK = oak.

(f) Emission control devices: WESP = wet electrostatic precipitator; CYC = cyclone; MCLO = multiclone; EFB = electrified filter bed; SF = sand filter.

TABLE A-6. SUMMARY OF PARTICLEBOARD DRYER EMISSION FACTOR CALCULATIONS--NOx, SO2 (a)

Test Code	Unit code	Pollutant	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
166-10069:2D166 NOX			DFIRE	SDUST	NS		NS		17.3	6.1	249	133	CYC	2	0.183	B	Partially dried material; data no
166-10069:2D166 NOX			DFIRE	SDUST	NS		NS		21.5	6.0	299	141	CYC	2	0.236	B	Partially dried material; data no
045-04159:1D045 NOX			DFIRE	SDUST	SY PINE	98	HWOOI	2	12.8	6.6	220	116	CYC	2	0.627	B	
045-04159:2D045 NOX			DFIRE	SDUST	SY PINE	98	HWOOI	2	12.0	4.7	490	140	CYC	2	0.222	B	
156-03219:XD156 NOX			DFIRE	SDUST	PINE SF	15	UFIR	85	NS	NS	NS	NS	SF	3	0.608	A	
228-09149:3D228 NOX			DFIRE	SDUST	PINE SF	100	NA		####	2.5	973	253	EFB	3	1.207	A	
156-06259:XD156 NOX			DFIRE	SDUST	PINE SF	15	UFIR	85	NS	NS	576	216	SF	3	0.912	A	
228-09169:1D228 NOX			DFIRE	SDUST	PINE SF	60	HWOOI	40	85.2	6.6	730	230	EFB	3	1.383	A	
167-10049:5D167 NOX			DFIRE	SDUST	HWOOI	65	PINE SF	35	31.5	4.2	978	228	EFB	4	1.287	A	
167-10258:3D167 NOX			DFIRE	SDUST	HWOOI	100	NA		42.5	2.5	862	223	MCLO	2	1.919	B	
167-08218:3D167 NOX			DFIRE	SDUST	HWOOI	100	NA		38.0	2.3	710	212	MCLO	3	0.103	A	
167-10209:4D167 NOX			DFIRE	SDUST	HWOOI	100	NA		36.3	3.3	921	201	EFB	3	1.361	A	
167-09189:4D167 NOX			DFIRE	SDUST	HWOOI	100	NA		36.3	3.0	870	204	EFB	4	1.725	A	
167-10209:4D167 NOX			DFIRE	SDUST	HWOOI	100	NA		40.3	3.2	888	203	EFB	3	0.129	A	
167-10239:5D167 NOX			DFIRE	SDUST	HWOOI	65	PINE SF	35	34.0	4.7	822	229	EFB	3	1.691	A	
167-09199:4D167 NOX			DFIRE	SDUST	HWOOI	100	NA		35.0	2.9	722	NS	EFB	2	0.099	B	
7-1 XD167 NOX			DFIRE	SDUST	NS		NS	NS	35.4	2.8	903	204	EFB	3	2.2	B	
166-10019:1D166 NOX			DFIRE	SDUST	NS		NS	NS	31.8	2.2	502	187	CYC	3	1.908	A	
6-1 XD167 NOX			DFIRE	SDUST	NS		NS	NS	35.4	2.8	903	204	CYC	3	2.2	B	
166-10019:1D166 NOX			DFIRE	SDUST	NS		NS	NS	21.9	3.6	521	183	CYC	3	1.236	A	
030-01209:2D030 NOX			DFIRE	WREF	PINE SF	95	HWOOI	5	18.1	6.4	426	158	CYC	3	0.854	A	
030-01199:1D030 NOX			DFIRE	WREF	PINE SF	95	HWOOI	5	24.7	8.0	223	128	CYC	3	0.074	A	
NOx, direct wood-fired														Ave.	1.1		
														Min.	0.074		
														Max.	2.2		
														SD	0.72		
1-2 NOX			DFIRE	NGAS	OAK	86	SWOOI	14	7.3	4.6	218	120	MCLO	7	0.024	A	Data not used; see report.
166-10029:5D166 NOX			DFIRE	NGAS	NS		NS		11.5	4.3	296	202	CYC	3	0.077	B	Partially dried material; data no
202-07159:XD202 NOX			BOTH	NGAS	PINE SF	75	DFIR	10	13.5	2.0	NS	NS	EFB	3	0.903	A	
202-07139:1D202 NOX			BOTH	NGAS	PINE SF	75	DFIR	10	8.0	3.2	NS	NS	CYC	2	0.010	B	
202-07139:2D202 NOX			BOTH	NGAS	PINE SF	75	DFIR	10	8.0	3.1	NS	NS	CYC	2	0.020	B	
NOx, natural gas-fired														Ave.	0.31		
														Min.	0.010		
														Max.	0.90		

TABLE A-6. (Continued)

Test Code	Unit code	Pollutant	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
166-09289;3D166 NOX		DFIRE SDUST	NS				NS		####	22.5	871	193	EFB	3	2.627	A	Rotary predryer
166-09299;4D166 NOX		DFIRE SDUST	NS				NS		####	24.7	854	175	EFB	3	1.488	A	Rotary predryer
NOx, direct wood-fired (rotary predryer)														Ave.	2.1		
														Min.	1.5		
														Max.	2.6		
166-10019;1D166 SO2		DFIRE SDUST	NS				NS		21.9	3.6	521	183	CYC	3	0.0020	A	
SO2, direct wood-fired														Ave.	0.0020		
166-10069;2D166 SO2		DFIRE SDUST	NS				NS		21.5	6.0	299	141	CYC	1	0.0020	D	Discarded-rated D.
166-10029;5D166 SO2		DFIRE NGAS	NS				NS		11.5	4.3	296	202	CYC	1	0.0010	D	Discarded-rated D.
166-09299;4D166 SO2		DFIRE NS	NS				NS		####	24.7	854	175	EFB	1	0.0010	D	Discarded-rated D.
166-09289;3D166 SO2		DFIRE NS	NS				NS		####	22.5	871	193	EFB	1	0.0030	D	Discarded-rated D.

(a) NS = not specified; NA = not applicable.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing types: DFIRE = direct firing; BOTH = both direct-fired and indirect heated.

(d) Fuel types: SDUST = sanderdust; WREF = wood refuse; NGAS = natural gas.

(e) Wood species: SY PINE = Southern yellow pine; HWOOD = unspecified hardwood species; PINE SP = unknown pine species; UFIR = unspecified fir species;

OAK = oak; SWOOD = unspecified softwood species; DFIR = Douglas fir.

(f) Emission control devices: CYC = cyclone; SF = sand filter; EFB = electrified filter bed; MCLO = multiclone.

TABLE A-7. SUMMARY OF PARTICLEBOARD DRYER EMISSION FACTOR CALCULATIONS--SPECIATED ORGANICS (a)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
030-011991D030	111-T-CH-E	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	7.5E-06	A				
030-012092D030	111-T-CH-E	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	1.6E-05	A				
1,1,1-Trichloroethane, direct wood-fired, unspecified pines, <730F inlet air														Ave.	1.2E-05		
														Min.	7.5E-06		
														Max.	1.6E-05		
030-011991D030	124TMBENZ	DFIRE WREF	PINE SP	95 HWOOL	5	19.7	7.7	248	125	CYC	3	6.4E-05	A				
030-012092D030	124TMBENZ	DFIRE WREF	PINE SP	95 HWOOL	5	19.9	6.1	464	158	CYC	3	0.00011	A				
1,2,4-Trimethyl benzene, direct wood-fired, unspecified pines, <730F inlet air														Ave.	9.0E-05		
														Min.	6.4E-05		
														Max.	0.00011		
228-091693D228	2-5-DMBENZ	DFIRE SDUS1	PINE SP	100 NA	####	2.5	973	253	EFB	3	0.0053	A					
2,5-Dimethyl benzaldehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.0053		
030-011991D030	2-5-DMBENZ	DFIRE WREF	PINE SP	95 HWOOL	5	22.6	8.2	237	125	CYC	3	3.3E-05	A				
2,5-Dimethyl benzaldehyde, direct wood-fired, unspecified pines, <730F inlet air														Ave.	3.3E-05		
228-091691D228	2-5-DMBENZ	DFIRE SDUS1	PINE SP	60 HWOOL	40	85.2	6.6	730	230	EFB	3	0.0015	B			Above cal. range by < 2	
2,5-Dimethyl benzaldehyde, direct-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.0015		
030-011991D030	4-M-2-PENT	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	3.3E-05	A				
030-012092D030	4-M-2-PENT	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.00013	A				
4-Methyl-2-pentanone, direct wood-fired, unspecified pines, <730F inlet air														Ave.	8.1E-05		
														Min.	3.3E-05		
														Max.	0.00013		
030-012092D030	44METDIAN	DFIRE WREF	PINE SP	95 HWOOL	5	19.9	6.1	464	158	CYC	1	3.3E-05	D				
4,4-Methylene dianiline, direct wood-fired, unspecified pines, <730F inlet air														Ave.	3.3E-05		
228-091793D228	A-PINENE	DFIRE SDUS1	PINE SP	100 NA	####	2.6	####	260	EFB	3	2.30	A					
228-091793D228	A-PINENE	DFIRE SDUS1	PINE SP	100 NA	####	2.6	####	260	EFB	3	1.57	A					
Alpha pinene, direct wood-fired, unspecified pines, >900F inlet air														Ave.	1.9		
														Min.	1.6		
														Max.	2.3		
030-012092D030	A-PINENE	DFIRE WREF	PINE SP	95 HWOOL	5	19.9	6.1	464	158	CYC	3	0.0764	C			Estimate; above cal. range	
030-011991D030	A-PINENE	DFIRE WREF	PINE SP	95 HWOOL	5	19.7	7.7	248	125	CYC	3	0.0167	C			Estimate; above cal. range	
030-012092D030	A-PINENE	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	1.671	C			Semiquantitative	
030-011991D030	A-PINENE	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	0.084	C			Semiquantitative	
Alpha pinene, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.46		
														Min.	0.017		
														Max.	1.7		
228-091791D228	A-PINENE	DFIRE SDUS1	PINE SP	60 HWOOL	40	85.2	8.0	630	220	EFB	3	0.361	A				
228-091791D228	A-PINENE	DFIRE SDUS1	PINE SP	60 HWOOL	40	85.2	8.0	630	220	EFB	3	0.569	A				
Alpha pinene, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.47		
														Min.	0.36		
														Max.	0.57		

TABLE A-7. (Continued)

TABLE IV-7 (Continued)																	
Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
1-2		A-PINENE	DFIRE NGAS	OAK	86	SWOOD	14	7.1	4.6	225	118	MCLO	3	0.019	A	Data not used; see report	
1-2		A-PINENE	DFIRE NGAS	OAK	86	SWOOD	14	7.1	4.6	225	118	MCLO	3	0.036	A	Data not used; see report	
1-2		A-PINENE	DFIRE NGAS	OAK	86	SWOOD	14	7.1	4.6	215	117	MCLO	3	0.013	A	Data not used; see report	
1-2		A-TERPENE	DFIRE NGAS	OAK	86	SWOOD	14	7.1	4.6	215	117	MCLO	3	0.0052	A	Data not used; see report	
228-091793D228 A-TERPENE DFIRE SDUSTPINE SP 100 NA								####	2.6	####	260	EFB	3	0.167	A		
Alpha terpeneol, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.17		
030-012092D030 A-TERPENE DFIRE WREF PINE SP 95 HWOOL					5	19.9	6.1	464	158	CYC	3	0.1000	C	Estimate; above cal. range			
030-011991D030 A-TERPENE DFIRE WREF PINE SP 95 HWOOL					5	19.7	7.7	248	125	CYC	3	0.0319	C	Estimate; above cal. range			
Alpha terpeneol, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.066		
														Min.	0.032		
														Max.	0.10		
228-091791D228 A-TERPENE DFIRE SDUSTPINE SP 60 HWOOL 40 85.2 8.0 630 220 EFB					3	0.0535	A										
Alpha terpeneol, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.053		
228-091693D228 ACETALD DFIRE SDUSTPINE SP 100 NA							####	2.5	973	253	EFB	3	0.0737	A			
228-091593D228 ACETALD DFIRE SDUSTPINE SP 100 NA							####	2.2	990	260	EFB	3	0.070	A			
Acetaldehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.072		
														Min.	0.070		
														Max.	0.074		
030-012092D030 ACETALD DFIRE WREF PINE SP 95 HWOOL 5 22.2 6.6 418 159 CYC					3	0.00962	C	Estimate; below cal. range									
Acetaldehyde, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.010		
228-091691D228 ACETALD DFIRE SDUSTPINE SP 60 HWOOL 40 85.2 6.6 730 230 EFB					3	0.00516	A										
Acetaldehyde, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.0052		
030-011991D030 ACETALD DFIRE WREF PINE SP 95 HWOOL 5 22.6 8.2 237 125 CYC					1	0.00246	D	Not used; data rated D.									
1-2 ACETALD DFIRE NGAS OAK 86 SWOOD 14 7.6 4.6 215 117 MCLO					3	0.00098	A	Data not used see report									
228-091793D228 ACETONE DFIRE SDUSTPINE SP 100 NA							####	2.6	####	260	EFB	3	0.287	A			
228-091693D228 ACETONE DFIRE SDUSTPINE SP 100 NA							####	2.5	973	253	EFB	3	0.096	A			
228-091593D228 ACETONE DFIRE SDUSTPINE SP 100 NA							####	2.2	990	260	EFB	3	0.0923	A			
Acetone, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.16		
														Min.	0.092		
														Max.	0.29		
030-011991D030 ACETONE DFIRE WREF PINE SP 95 HWOOL 5 20.6 8.4 258 127 CYC					3	0.00180	C	Estimate; above cal. range									
030-011991D030 ACETONE DFIRE WREF PINE SP 95 HWOOL 5 22.6 8.2 237 125 CYC					3	0.0104	A										
030-012092D030 ACETONE DFIRE WREF PINE SP 95 SWOOD 5 20.2 6.5 459 155 CYC					3	0.0115	A										
Acetone, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.0079		
														Min.	0.0018		
														Max.	0.011		

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
228-091691D228	ACETONE	DFIRE SDUS1	PINE SP	60	HWOOL	40	85.2	6.6	730	230	EFB	3	0.0132	A			
228-091791D228	ACETONE	DFIRE SDUS1	PINE SP	60	HWOOL	40	85.2	8.0	630	220	EFB	3	0.0319	A			
Acetone, direct wood-fired, mixed wood species													Ave.	0.023			
													Min.	0.013			
													Max.	0.032			
030-012092D030	ACETONE	DFIRE WREF	PINE SP	95	HWOOL	5	22.2	6.6	418	159	CYC	1	0.0344	D	Discarded; rated D		
030-011991D030	ACETPH	DFIRE WREF	PINE SP	95	HWOOL	5	19.7	7.7	248	125	CYC	3	3.1E-05	A			
030-012092D030	ACETPH	DFIRE WREF	PINE SP	95	HWOOL	5	19.9	6.1	464	158	CYC	2	9.8E-05	B			
Acetophenone, direct wood-fired, unspecified pines, <730F inlet air													Ave.	6.4E-05			
													Min.	3.1E-05			
													Max.	9.8E-05			
228-091593D228	ACROLEIN	DFIRE SDUS1	PINE SP	100	NA		####	2.2	990	260	EFB	3	0.0221	A			
228-091693D228	ACROLEIN	DFIRE SDUS1	PINE SP	100	NA		####	2.5	973	253	EFB	3	0.024	A			
Acrolein, direct wood-fired, unspecified pines, >900F inlet air													Ave.	0.023			
													Min.	0.022			
													Max.	0.024			
030-012092D030	ACROLEIN	DFIRE WREF	PINE SP	95	SWOOD	5	20.2	6.5	459	155	CYC	3	0.00832	C	Semiquantitative		
030-012092D030	ACROLEIN	DFIRE WREF	PINE SP	95	HWOOL	5	22.2	6.6	418	159	CYC	3	0.00268	A			
030-011991D030	ACROLEIN	DFIRE WREF	PINE SP	95	HWOOL	5	22.6	8.2	237	125	CYC	3	0.000413	A			
030-011991D030	ACROLEIN	DFIRE WREF	PINE SP	95	HWOOL	5	20.6	8.4	258	127	CYC	3	0.00170	C	Semiquantitative		
Acrolein, direct wood-fired, unspecified pines, <730F inlet air													Ave.	0.0033			
													Min.	0.00041			
													Max.	0.0083			
228-091691D228	ACROLEIN	DFIRE SDUS1	PINE SP	60	HWOOL	40	85.2	6.6	730	230	EFB	3	0.000814	A			
Acrolein, direct wood-fired, mixed wood species													Ave.	0.00081			
030-011991D030	ACRYLNIT	DFIRE WREF	PINE SP	95	HWOOL	5	20.6	8.4	258	127	CYC	3	4.3E-05	C	Semiquantitative		
030-012092D030	ACRYLNIT	DFIRE WREF	PINE SP	95	SWOOD	5	20.2	6.5	459	155	CYC	3	0.000134	C	Semiquantitative		
Acrylonitrile, direct wood-fired, unspecified pines, <730F inlet air													Ave.	8.9E-05			
													Min.	4.3E-05			
													Max.	0.00013			
228-091793D228	B-PINENE	DFIRE SDUS1	PINE SP	100	NA		####	2.6	####	260	EFB	3	0.847	A			
228-091793D228	B-PINENE	DFIRE SDUS1	PINE SP	100	NA		####	2.6	####	260	EFB	3	0.792	A			
Beta pinene, direct wood-fired, unspecified pines, >900F inlet air													Ave.	0.82			
													Min.	0.79			
													Max.	0.85			

TABLE A-7. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
030-011991D030	B-PINENE	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	0.0203	C	Semiquantitative			
030-011991D030	B-PINENE	DFIRE WREF	PINE SP	95 HWOOL	5	19.7	7.7	248	125	CYC	3	0.010	C	Estimate; above cal. range			
030-012092D030	B-PINENE	DFIRE WREF	PINE SP	95 HWOOL	5	19.9	6.1	464	158	CYC	3	0.0432	C	Estimate; above cal. range			
030-012092D030	B-PINENE	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.586	C	Semiquantitative			
Beta pinene, direct wood-fired, unspecified pines, <730F inlet air												Ave.	0.16				
												Min.	0.010				
												Max.	0.59				
228-091791D228	B-PINENE	DFIRE SDUST	PINE SP	60 HWOOL	40	85.2	8.0	630	220	EFB	3	0.21	A				
228-091791D228	B-PINENE	DFIRE SDUST	PINE SP	60 HWOOL	40	85.2	8.0	630	220	EFB	3	0.119	A				
Beta pinene, direct wood-fired, mixed wood species												Ave.	0.16				
												Min.	0.12				
												Max.	0.21				
1-2	B-PINENE	DFIRE NGAS	OAK	86 SWOOD	14	7.1	4.6	225	118	MCLO	3	0.0099	A	Data not used; see report			
1-2	B-PINENE	DFIRE NGAS	OAK	86 SWOOD	14	7.1	4.6	225	118	MCLO	3	0.013	B	Data not used; see report			
1-2	B-PINENE	DFIRE NGAS	OAK	86 SWOOD	14	7.1	4.6	215	117	MCLO	3	0.0039	A	Data not used; see report			
228-091693D228	BENZALD	DFIRE SDUST	PINE SP	100 NA	####	2.5	973	253	EFB	3	0.118	A					
Benzaldehyde, direct wood-fired, unspecified pines, >900F inlet air												Ave.	0.12				
030-012092D030	BENZALD	DFIRE WREF	PINE SP	95 HWOOL	5	22.2	6.6	418	159	CYC	3	0.00442	A				
030-011991D030	BENZALD	DFIRE WREF	PINE SP	95 HWOOL	5	22.6	8.2	237	125	CYC	3	0.000875	A				
Benzaldehyde, direct wood-fired, unspecified pines, <730F inlet air												Ave.	0.0026				
												Min.	0.00088				
												Max.	0.0044				
228-091691D228	BENZALD	DFIRE SDUST	PINE SP	60 HWOOL	40	85.2	6.6	730	230	EFB	3	0.00819	A				
Benzaldehyde, direct wood-fired, mixed wood species												Ave.	0.0082				
1-2	BENZALD	DFIRE NGAS	OAK	86 SWOOD	14	7.6	4.6	215	117	MCLO	3	0.00031	A	Data not used; see report			
228-091793D228	BENZENE	DFIRE SDUST	PINE SP	100 NA	####	2.6	####	260	EFB	1	0.00465	D	Discarded; rated D				
030-011991D030	BENZENE	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	0.000113	A				
030-012092D030	BENZENE	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.000334	A				
Benzene, direct wood-fired, unspecified pines, <730F inlet air												Ave.	0.00022				
												Min.	0.00011				
												Max.	0.00033				
030-012092D030	BIPHENYL	DFIRE WREF	PINE SP	95 HWOOL	5	19.9	6.1	464	158	CYC	3	6.1E-05	A				
030-011991D030	BIPHENYL	DFIRE WREF	PINE SP	95 HWOOL	5	19.7	7.7	248	125	CYC	3	1.6E-05	A				
Biphenyl, direct wood-fired, unspecified pines, <730F inlet air												Ave.	3.9E-05				
												Min.	1.6E-05				
												Max.	6.1E-05				

TABLE A-7. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
030-011991D030	BIS-2EH-PH	DFIRE WREF	PINE SP	95 HWOOL	5	19.7	7.7	248	125	CYC	3	6.4E-05	A				
030-012092D030	BIS-2EH-PH	DFIRE WREF	PINE SP	95 HWOOL	5	19.9	6.1	464	158	CYC	3	0.000584	A				
Bis-(2-ethylhexyl phthalate), direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.00032		
														Min.	6.4E-05		
														Max.	0.00058		
030-012092D030	BROMOMET	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	4.6E-05	A				
030-011991D030	BROMOMET	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	9.4E-06	A				
Bromomethane, direct wood-fired, unspecified pines, <730F inlet air														Ave.	2.8E-05		
														Min.	9.4E-06		
														Max.	4.6E-05		
030-011991D030	BUTBENPHI	DFIRE WREF	PINE SP	95 HWOOL	5	19.7	7.7	248	125	CYC	2	1.4E-05	B				
Butylbenzyl phthalate, direct wood-fired, unspecified pines, <730F inlet air														Ave.	1.4E-05		
228-091593D228	BUTYLALDE	DFIRE SDUST	PINE SP	100 NA	####	2.2	990	260	EFB	3	0.0290	A					
Butylaldehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.029		
030-011991D030	BUTYLALDE	DFIRE WREF	PINE SP	95 HWOOL	5	22.6	8.2	237	125	CYC	3	0.000666	A				
030-012092D030	BUTYLALDE	DFIRE WREF	PINE SP	95 HWOOL	5	22.2	6.6	418	159	CYC	3	0.00544	A				
Butylaldehyde, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.0031		
														Min.	0.00067		
														Max.	0.0054		
228-091691D228	BUTYLALDE	DFIRE SDUST	PINE SP	60 HWOOL	40	85.2	6.6	730	230	EFB	3	0.00190	A				
Butylaldehyde, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.0019		
030-011991D030	CARBDIS	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	1.2E-05	A				
030-012092D030	CARBDIS	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	2	2.4E-05	B				
Carbon disulfide, direct wood-fired, unspecified pines, <730F inlet air														Ave.	1.8E-05		
														Min.	1.2E-05		
														Max.	2.4E-05		
030-011991D030	CARBTETCH	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	7.8E-06	A				
030-012092D030	CARBTETCH	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	1.6E-05	A				
Carbon tetrachloride, direct wood-fired, unspecified pines, <730F inlet air														Ave.	1.2E-05		
														Min.	7.8E-06		
														Max.	1.6E-05		
228-091793D228	CHLOROFOF	DFIRE SDUST	PINE SP	100 NA	####	2.6	####	260	EFB	2	0.00010	B					
Chloroform, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.00010		
030-011991D030	CHLOROME'	DFIRE WREF	PINE SP	95 HWOOL	5	20.6	8.4	258	127	CYC	3	4.5E-05	A				
030-012092D030	CHLOROME'	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.000185	A				
Chloromethane, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.00011		
														Min.	4.5E-05		
														Max.	0.00018		

TABLE A-7. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
228-091593D228	CROTONAL	DFIRE SDUST	PINE SP	100	NA	####	2.2	990	260	EFB	3	0.0101	A				
228-091693D228	CROTONAL	DFIRE SDUST	PINE SP	100	NA	####	2.5	973	253	EFB	3	0.0102	A				
Crotonaldehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.010		
														Min.	0.010		
														Max.	0.010		
228-091691D228	CROTONAL	DFIRE SDUST	PINE SP	60	HWOOL	40	85.2	6.6	730	230	EFB	3	0.000822	A			
Crotonaldehyde, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.00082		
228-091793D228	CUMENE	DFIRE SDUST	PINE SP	100	NA	####	2.6	####	260	EFB	3	0.00204	A				
Cumene, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.0020		
030-011991D030	CUMENE	DFIRE WREF	PINE SP	95	HWOOL	5	19.7	7.7	248	125	CYC	3	3.7E-05	A			
030-012092D030	CUMENE	DFIRE WREF	PINE SP	95	HWOOL	5	19.9	6.1	464	158	CYC	3	0.000102	A			
Cumene, direct wood-fired, unspecified pines, <730F inlet air														Ave.	6.9E-05		
														Min.	3.7E-05		
														Max.	0.00010		
030-012092D030	D-N-BUT-PH	DFIRE WREF	PINE SP	95	HWOOL	5	19.9	6.1	464	158	CYC	3	3.3E-05	A			
030-011991D030	D-N-BUT-PH	DFIRE WREF	PINE SP	95	HWOOL	5	19.7	7.7	248	125	CYC	3	1.4E-05	A			
Di-n-butyl phthalate, direct wood-fired, unspecified pines, <730F inlet air														Ave.	2.3E-05		
														Min.	1.4E-05		
														Max.	3.3E-05		
1-2	DI-N-BUT-PH	DFIRE NGAS	OAK	86	SWOOD	14	7.6	4.6	215	117	MCLO	3	0.00015	A	Data not used; see report		
030-012092D030	DMS	DFIRE WREF	PINE SP	95	SWOOD	5	20.2	6.5	459	155	CYC	3	1.4E-05	A			
Dimethyl sulfide, direct wood-fired, unspecified pines, <730F inlet air														Ave.	1.4E-05		
030-011991D030	ETYL BENZ	DFIRE WREF	PINE SP	95	HWOOL	5	20.6	8.4	258	127	CYC	2	3.8E-06	B			
Ethyl benzene, direct wood-fired, unspecified pines, <730F inlet air														Ave.	3.8E-06		
045-041591D045	FOR	DFIRE SDUST	SY PINE	98	HWOOL	2	12.8	6.6	220	116	CYC	2	0.0245	B			
045-041592D045	FOR	DFIRE SDUST	SY PINE	98	HWOOL	2	12.0	4.7	490	140	CYC	2	0.017	B			
Formaldehyde, direct wood-fired, Southern yellow pine														Ave.	0.021		
														Min.	0.017		
														Max.	0.025		
228-091693D228	FOR	DFIRE SDUST	PINE SP	100	NA	####	2.5	973	253	EFB	3	0.167	A				
Formaldehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.17		
045-041591D045	FOR	DFIRE SDUST	SY PINE	98	HWOOL	2	12.8	6.6	220	116	CYC	2	0.0245	B			
045-041592D045	FOR	DFIRE SDUST	SY PINE	98	HWOOL	2	12.0	4.7	490	140	CYC	2	0.017	B			
030-011991D030	FOR	DFIRE WREF	PINE SP	95	HWOOL	5	22.6	8.2	237	125	CYC	3	0.0152	A			
030-012092D030	FOR	DFIRE WREF	PINE SP	95	HWOOL	5	22.2	6.6	418	159	CYC	3	0.0639	A			
Formaldehyde, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.030		
														Min.	0.015		
														Max.	0.064		

TABLE A-7. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
1-2		FOR	DFIRE NGAS	OAK	86	SWOOD	14	7.6	4.6	215	117	MCLO	3	0.036	A	Data not used; see report	
039-102691D039		FOR	DFIRE WREF	HWOOI	55	SWOOD	45	95.0	65.0	650	165	EFB	3	0.00017	A	Rotary predryer	
Formaldehyde, direct wood-fired, mixed wood species (predryer) NOT REPORTED IN AP-42														Ave.	0.00017		
166-092893D166		FOR	DFIRE NS	NS	NS	####	22.5	871	193	EFB	3	0.0875	D	Rotary predryer; N3500			
166-092994D166		FOR	DFIRE NS	NS	NS	####	24.7	854	175	EFB	3	0.039	D	Rotary predryer; N3500			
228-091691D228		FOR	DFIRE SDUS1	PINE SP	60	HWOOE	40	85.2	6.6	730	230	EFB	3	0.0188	A		
Formaldehyde, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.019		
039-10269XD039		FOR	DFIRE WREF	HWOOI	55	SWOOD	45	65.0	5.0	592	286	MCLO	3	0.00123	A	Rotary final dryer	
039-102697D039		FOR	DFIRE WREF	HWOOI	55	SWOOD	45	65.0	5.0	571	267	MCLO	3	0.000867	A	Rotary final dryer	
039-102695D039		FOR	DFIRE SDUS1	HWOOI	55	SWOOD	45	65.0	5.0	603	253	MCLO	3	0.00117	A	Rotary final dryer	
Formaldehyde, direct wood-fired, mixed wood species (final drye NOT REPORTED IN AP-42														Ave.	0.0011		
														Min.	0.00087		
														Max.	0.0012		
167-102094D167		FOR	DFIRE SDUS1	HWOOI	100	NA		36.3	3.3	921	201	EFB	3	0.033	D	NIOSH 3500	
167-021894D167		FOR	DFIRE SDUS1	HWOOI	100	NA		86.7	2.8	887	210	EFB	8	0.0488	D	NIOSH 3500	
167-102094D167		FOR	DFIRE SDUS1	HWOOI	100	NA		40.3	3.2	888	203	EFB	3	0.0763	D	NIOSH 3500	
167-082189D167		FOR	DFIRE SDUS1	HWOOI	100	NA		38.0	2.3	710	212	MCLO	3	0.0257	D	NIOSH 3500	
167-102396D167		FOR	DFIRE SDUS1	HWOOI	65	PINE SP	35	34.0	4.7	822	229	EFB	3	0.106	D	NIOSH 3500	
4-2	3D228	FOR	DFIRE SDUS1	NS	NS	NS	NS	NS	2	1075	270	EFB/FF	3	0.00024	D	NIOSH 3500	
4-4	1D228	FOR	DFIRE SDUS1	NS	NS	NS	NS	NS	2	750	200	EFB/FF	3	0.00023	D	NIOSH 3500	
228-091693D228		HEXALD	DFIRE SDUS1	PINE SP	100	NA		####	2.5	973	253	EFB	3	0.0223	A		
Hexaldehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.022		
030-012092D030		HEXALD	DFIRE WREF	PINE SP	95	HWOOE	5	22.2	6.6	418	159	CYC	3	0.0157	A		
Hexaldehyde, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.016		
228-091691D228		HEXALD	DFIRE SDUS1	PINE SP	60	HWOOE	40	85.2	6.6	730	230	EFB	3	0.00624	A		
Hexaldehyde, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.0062		
030-011991D030		HEXALD	DFIRE WREF	PINE SP	95	HWOOE	5	22.6	8.2	237	125	CYC	1	0.00112	D	Data not used; rated D.	
1-2		HEXALD	DFIRE NGAS	OAK	86	SWOOD	14	7.6	4.6	215	117	MCLO	3	0.00049	A	Data not used; see report	
030-011991D030		HYDROQUIN	DFIRE WREF	PINE SP	95	HWOOE	5	19.7	7.7	248	125	CYC	2	6.0E-05	B		
Hydroquinone, direct wood-fired, unspecified pines, <730F inlet air														Ave.	6.0E-05		
228-091693D228		ISOVALALD	DFIRE SDUS1	PINE SP	100	NA		####	2.5	973	253	EFB	3	0.0181	A		
Isovaleraldehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.018		

TABLE A-7. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
030-011991D030	ISOVALALD	DFIRE WREF	PINE SP	95 HWOOC	5	22.6	8.2	237	125	CYC	3	0.000237	A				
030-012092D030	ISOVALALD	DFIRE WREF	PINE SP	95 HWOOC	5	22.2	6.6	418	159	CYC	3	0.00080	A				
Isovaleraldehyde, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.00052		
														Min.	0.00024		
														Max.	0.00080		
228-091691D228	ISOVALALD	DFIRE SDUST	PINE SP	60 HWOOC	40	85.2	6.6	730	230	EFB	3	0.00109	A				
Isovaleraldehyde, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.0011		
228-091793D228	M-P-XYLENE	DFIRE SDUST	PINE SP	100 NA	####	2.6	####	260	EFB	3	0.00756	A					
m-, p-Xylene, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.0076		
030-011991D030	M-P-XYLENE	DFIRE WREF	PINE SP	95 HWOOC	5	20.6	8.4	258	127	CYC	3	7.94E-05	A				
030-012092D030	M-P-XYLENE	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.000150	A				
m-, p-Xylene, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.00011		
														Min.	7.9E-05		
														Max.	0.00015		
030-011991D030	M-TOLALD	DFIRE WREF	PINE SP	95 HWOOC	5	22.6	8.2	237	125	CYC	1	0.00025	D				
030-012092D030	M-TOLALD	DFIRE WREF	PINE SP	95 HWOOC	5	22.2	6.6	418	159	CYC	2	0.00045	B				
m-Tolualdehyde, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.00035		
														Min.	0.00025		
														Max.	0.00045		
228-091693D228	MEK	DFIRE SDUST	PINE SP	100 NA	####	2.5	973	253	EFB	3	0.00923	A					
Methyl ethyl ketone, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.0092		
030-012092D030	MEK	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.00311	A				
030-011991D030	MEK	DFIRE WREF	PINE SP	95 HWOOC	5	20.6	8.4	258	127	CYC	3	0.000170	A				
030-011991D030	MEK	DFIRE WREF	PINE SP	95 HWOOC	5	22.6	8.2	237	125	CYC	3	0.000629	A				
Methyl ethyl ketone, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.0013		
														Min.	0.00017		
														Max.	0.0031		
228-091691D228	MEK	DFIRE SDUST	PINE SP	60 HWOOC	40	85.2	6.6	730	230	EFB	2	0.00046	B				
Methyl ethyl ketone, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.00046		
202-07159XD202	METH	BOTH NGAS	PINE SP	75 DFIR	10	13.5	2.0	NS	NS	EFB	3	0.187	A				
202-071592D202	METH	BOTH NGAS	PINE SP	75 DFIR	10	13.5	2.0	NS	NS	CYC	3	0.346	A				
Methane, natural gas-fired, pines														Ave.	0.27		
														Min.	0.19		
														Max.	0.35		

TABLE A-7. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
202-071591D202	METH	BOTH NGAS	PINE SP	75 DFIR	10	13.5	2.0	NS	NS	CYC	3					NR	Discarded; not rated.
228-091793D228	METHENECI	DFIRE SDUS1	PINE SP	100 NA	####	2.6	####	260	EFB	3	0.00218	A					
Methylene chloride, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.0022		
030-011991D030	METHENECI	DFIRE WREF	PINE SP	95 HWOOC	5	20.6	8.4	258	127	CYC	3	0.00071	A				
030-012092D030	METHENECI	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.00060	A				
Methylene chloride, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.00066		
														Min.	0.00060		
														Max.	0.00071		
228-091791D228	METHENECI	DFIRE SDUS1	PINE SP	60 HWOOC	40	85.2	8.0	630	220	EFB	3	0.00324	A				
Methylene chloride, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.0032		
228-091693D228	N-BUTYRAL	DFIRE SDUS1	PINE SP	100 NA	####	2.5	973	253	EFB	3	0.0298	A					
n-Butylaldehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.030		
030-012092D030	N-HEXANE	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	2.6E-05	A				
n-Hexane, direct wood-fired, unspecified pines, <730F inlet air														Ave.	2.6E-05		
030-011991D030	NITROBENZ	DFIRE WREF	PINE SP	95 HWOOC	5	19.7	7.7	248	125	CYC	1	1.74E-05	D				
Nitrobenzene, direct wood-fired, unspecified pines, <730F inlet air														Ave.	1.7E-05		
228-091693D228	O-TOLALD	DFIRE SDUS1	PINE SP	100 NA	####	2.5	973	253	EFB	3	0.0105	A					
o-Tolualdehyde, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.011		
228-091691D228	O-TOLALD	DFIRE SDUS1	PINE SP	60 HWOOC	40	85.2	6.6	730	230	EFB	3	0.000663	A				
o-Tolualdehyde, direct wood-fired, mixed wood species NOT REPORTED IN AP-42														Ave.	0.00066		
228-091793D228	O-XYLENE	DFIRE SDUS1	PINE SP	100 NA	####	2.6	####	260	EFB	2	0.000451	B					
o-Xylene, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.00045		
030-011991D030	O-XYLENE	DFIRE WREF	PINE SP	95 HWOOC	5	20.6	8.4	258	127	CYC	3	5.9E-06	A				
030-012092D030	O-XYLENE	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	2.3E-05	A				
o-Xylene, direct wood-fired, unspecified pines, <730F inlet air														Ave.	1.4E-05		
														Min.	5.9E-06		
														Max.	2.3E-05		
228-091793D228	P-CYMEME	DFIRE SDUS1	PINE SP	100 NA	####	2.6	####	260	EFB	2	0.0066	B					
228-091793D228	P-CYMEME	DFIRE SDUS1	PINE SP	100 NA	####	2.6	####	260	EFB	3	0.0149	A					
p-Cymene, direct wood-fired, unspecified pines, >900F inlet air														Ave.	0.011		
														Min.	0.0066		
														Max.	0.015		
030-011991D030	P-CYMEME	DFIRE WREF	PINE SP	95 HWOOC	5	19.7	7.7	248	125	CYC	3	0.00107	C	Estimate; above cal. rang			
030-012092D030	P-CYMEME	DFIRE WREF	PINE SP	95 HWOOC	5	19.9	6.1	464	158	CYC	3	0.00859	C	Estimate; above cal. rang			
030-012092D030	P-CYMEME	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.0131	C	Semiquantitative			
030-011991D030	P-CYMEME	DFIRE WREF	PINE SP	95 HWOOC	5	20.6	8.4	258	127	CYC	3	0.00194	C	Semiquantitative			
p-Cymene, direct wood-fired, unspecified pines, <730F inlet air														Ave.	0.0062		
														Min.	0.0011		
														Max.	0.013		

TABLE A-7. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
228-091791D228	P-CYMEME	DFIRE SDUS1	PINE SP	60 HWOOC	40	85.2	8.0	630	220	EFB	3	0.00220	A	Data not used; see report			
228-091791D228	P-CYMEME	DFIRE SDUS1	PINE SP	60 HWOOC	40	85.2	8.0	630	220	EFB	3	0.000978	A				
p-Cymene, direct wood-fired, mixed wood species												Ave.	0.0016				
NOT REPORTED IN AP-42												Min.	0.00098				
												Max.	0.0022				
1-2	P-CYMENE	DFIRE NGAS	OAK	86 SWOOD	14	7.1	4.6	215	117	MCLO	3	0.00013	A	Data not used; see report			
228-091693D228	P-TOLALD	DFIRE SDUS1	PINE SP	100 NA		####	2.5	973	253	EFB	3	0.0263	A	Data not used; see report			
p-Tolualdehyde, direct wood-fired, unspecified pines, >900F inlet air												Ave.	0.026				
228-091691D228	P-TOLALD	DFIRE SDUS1	PINE SP	60 HWOOC	40	85.2	6.6	730	230	EFB	3	0.00458	A				
p-Tolualdehyde, direct wood-fired, mixed wood species												Ave.	0.0046				
228-091693D228	PROPIONALD	DFIRE SDUS1	PINE SP	100 NA		####	2.5	973	253	EFB	3	0.011	A	Data not used; see report			
228-091593D228	PROPIONALD	DFIRE SDUS1	PINE SP	100 NA		####	2.2	990	260	EFB	3	0.0104	A				
Propionaldehyde, direct wood-fired, unspecified pines, >900F inlet air												Ave.	0.011				
												Min.	0.010				
												Max.	0.011				
228-091691D228	PROPIONALD	DFIRE SDUS1	PINE SP	60 HWOOC	40	85.2	6.6	730	230	EFB	3	0.000388	A	Data not used; see report			
Propionaldehyde, direct wood-fired, mixed wood species												Ave.	0.00039				
228-091793D228	STYRENE	DFIRE SDUS1	PINE SP	100 NA		####	2.6	####	260	EFB	2	0.000358	B				
Styrene, direct wood-fired, unspecified pines, >900F inlet air												Ave.	0.00036				
030-012092D030	STYRENE	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.000116	A	Data not used; see report			
Styrene, direct wood-fired, unspecified pines, <730F inlet air												Ave.	0.00012				
030-012092D030	T1-4-DCBUT	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	1	2.41E-05	D				
Trans 1,4 dichlorobutene, direct wood-fired, unspecified pines, <730F inlet air												Ave.	2.4E-05				
228-091793D228	TOLUENE	DFIRE SDUS1	PINE SP	100 NA		####	2.6	####	260	EFB	3	0.0212	A	Data not used; see report			
Toluene, direct wood-fired, unspecified pines, >900F inlet air												Ave.	0.021				
030-011991D030	TOLUENE	DFIRE WREF	PINE SP	95 HWOOC	5	20.6	8.4	258	127	CYC	3	0.000307	A				
030-012092D030	TOLUENE	DFIRE WREF	PINE SP	95 SWOOD	5	20.2	6.5	459	155	CYC	3	0.00306	A				
Toluene, direct wood-fired, unspecified pines, <730F inlet air												Ave.	0.0017	Data not used; see report			
												Min.	0.00031				
												Max.	0.0031				
228-091791D228	TOLUENE	DFIRE SDUS1	PINE SP	60 HWOOC	40	85.2	8.0	630	220	EFB	3	0.00125	A	Data not used; see report			
Toluene, direct wood-fired, mixed wood species												Ave.	0.0012				
1-2	TOLUENE	DFIRE NGAS	OAK	86 SWOOD	14	7.1	4.6	225	118	MCLO	3	0.00059	A				
228-091693D228	VALALD	DFIRE SDUS1	PINE SP	100 NA		####	2.5	973	253	EFB	3	0.0139	A				
Valeraldehyde, direct wood-fired, unspecified pines, >900F inlet air												Ave.	0.014				
030-012092D030	VALALD	DFIRE WREF	PINE SP	95 HWOOC	5	22.2	6.6	418	159	CYC	3	0.00744	C	Estimate; above cal. range			
030-011991D030	VALALD	DFIRE WREF	PINE SP	95 HWOOC	5	22.6	8.2	237	125	CYC	3	0.00164	A	Data not used; see report			
Valeraldehyde, direct wood-fired, unspecified pines, <730F inlet air												Ave.	0.0045				
												Min.	0.0016				
												Max.	0.0074				

TABLE A-7. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Moisture content, %		Temperature, degrees F		Emission control device(f)	No. of runs	Emission factor, Lb/ODT	Data rating	Comments
					Primary	%	Secon.	%	inlet	outlet	inlet	outlet					
228-091691D228	VALALD	DFIRE SDUST	PINE SP	60	HWOOD	40	85.2	6.6	730	230	EFB	3	0.00404	A			
Valeraldehyde, direct wood-fired, mixed wood species					NOT REPORTED IN AP-42								Ave.	0.0040			
030-012092D030	VINYLACET	DFIRE WREF	PINE SP	95	SWOOD	5	20.2	6.5	459	155	CYC	1	2.93E-05	D			
Vinyl acetate, direct wood-fired, unspecified pines, <730F inlet air													Ave.	2.9E-05			

(a) NS = not specified; NA = not applicable.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing types: DFIRE = direct firing; BOTH = both direct-fired and indirect heat.

(d) Fuel types: WREF = wood refuse; SDUST = sanderdust; NGAS = natural gas.

(e) Wood species: SY PINE = Southern yellow pine; PINE SP = unknown pine species; HWOOD = unspecified hardwood species; SWOOD = unspecified softwood species; OAK = oak; DFIR = Douglas fir.

(f) Emission control devices: CYC = cyclone; EFB = electrified filter bed; MCLO = multiclone; EFB/FF = electrified filter bed followed by a fabric filter.

TABLE A-8. SUMMARY OF PARTICLEBOARD PRESS EMISSION FACTOR CALCULATIONS (a)

Test Code	Unit code	Pollutant(b)	Test method(c)	Wood species(d)				Cat/ Scav.?	Wax applic. rate	Emission factor, Lb/MSF 3/4	Data rating	Comments
				Primary	%	Second.	%					
030-012193B	1P030	PM	M5	SY PINE	NS	NS	NS	Y	NS	0.082	D	Discarded--rated D
228-091992J	1P228	PM	M5	PINE SP	80	HWOOD	20	Y	123 lb/hr	0.030	B	
Filterable PM, UF resin, batch press									Average	0.030		
228-091992J	1P228	PM-10	M201A	PINE SP	80	HWOOD	20	Y	123 lb/hr	0.016	B	
Filterable PM-10, UF resin, batch press									Average	0.016		
1-1	1-1	PM-10	M201A	HWOOD	86	SWOOD	14			0.063	C	Discarded
166-100892A	1P166	PM&CPM	OD8	NS	NS	NS	NS	NS	NS	0.93	B	
166-100892B	2P166	PM&CPM	OD8	NS	NS	NS	NS	NS	NS	0.30	B	
PM&CPM, UF resin, batch press									Average	0.62		
NOT REPORTED IN AP-42									Minimum	0.30		
									Maximum	0.93		
228-091992J	1P228	PM10&CPM	M201A/2	PINE SP	80	HWOOD	20	Y	123 lb/hr	0.077	B	Not reported as separate factor
CPM										0.061		Estimated as PM10&CPM - 1
Condensable PM, UF resin, batch press									Average	0.061		
030-012193C	1P030	VOC	M25A	SY PINE	NS	NS	NS	Y	NS	1.8	A	+ FOR(0.26) - nonVOC(0.013)
228-091992K	1P228	VOC	M25A	PINE SP	80	HWOOD	20	Y	116 lb/hr	1.3	B	+ FOR(0.26) - nonVOC(0.013)
167-102190B	1P167	VOC	M25A	ASPEN	NS	MAPLE	NS	NS	NS	0.43	B	+ FOR(0.26) - nonVOC(0.013)
039-102692E	1P039	VOC	M25A	HWOOD	55	SWOOD	45	Y	0.6%	0.95	B	+ FOR(0.26) - nonVOC(0.013)
167-102588B	1P167	VOC	M25	HWOOD	100	NS	NS	NS	NS	0.63	A	- nonVOC(0.013); FOR not
1-1	1-1	VOC	M25A	HWOOD	86	SWOOD	14			0.35	A	+ FOR(0.26) - nonVOC(0.013)
166-100892A	1P166	VOC	M25A	NS	NS	NS	NS	NS	NS	1.31	B	+ FOR(0.26) - nonVOC(0.013)
166-100892B	2P166	VOC	M25A	NS	NS	NS	NS	NS	NS	0.84	B	+ FOR(0.26) - nonVOC(0.013)
VOC, UF resin, batch press (+FOR - nonVOC)									Average	0.94		
nonVOC = acetone (0.013)									Minimum	0.35		
									Maximum	1.8		
									SD	0.48		
166-100892A	1P166	CO	M10	NS	NS	NS	NS	NS	NS	0.057	D	Discarded--rated D
166-100892B	2P166	CO	M10	NS	NS	NS	NS	NS	NS	0.025	D	Discarded--rated D

TABLE A-8. (Continued)

Test Code	Unit code	Pollutant(b)	Test method(c)	Wood species(d)				Cat/ Scav.?	Wax applic. rate	Emission factor, Lb/MSF 3/4	Data rating	Comments
				Primary	%	Second.	%					
039-102692E	1P039	CO	M10	HWOOD	55	SWOOD	45	Y	0.6%	0.11	B	
1-1	1-1	CO		HWOOD	86	SWOOD	14	NS	NS	0.068	A	
CO, UF resin, batch press									Average	0.090		
									Minimum	0.068		
									Maximum	0.11		
1-2	1-2	111-T-CH-E	M0030	HWOOD	86	SWOOD	14	NS	NS	0.00022	A	Veneer press
1,1,1-Trichloroethane, UF resin, veneer press									Average	0.00022		
030-012193A	1P030	2-5-DMBENZ	M0011	SY PINE	NS	NS	NS	S	NS	0.00032	B	
2,5 Dimethyl benzaldehyde, UF resin, batch press									Average	0.00032		
1-2	1-2	ACETALD	M0011	HWOOD	86	SWOOD	14	NS	NS	9.9E-05	A	Veneer press
Acetaldehyde, UF resin, veneer press									Average	9.9E-05		
030-012193A	1P030	ACETALD	M0011	SY PINE	NS	NS	NS	S	NS	0.034	A	
228-091992H	1P228	ACETALD	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.0049	B	
1-1	1-1	ACETALD	M0011	HWOOD	86	SWOOD	14	NS	NS	0.0035	A	
Acetaldehyde, UF resin, batch press									Average	0.014		
									Minimum	0.0035		
									Maximum	0.034		
030-012193A	1P030	ACETONE	M0011	SY PINE	NS	NS	NS	S	NS	0.017	A	
228-091992H	1P228	ACETONE	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.0082	B	
Acetone, UF resin, batch press									Average	0.013		
									Minimum	0.0082		
									Maximum	0.017		
030-012193A	1P030	ACROLEIN	M0011	SY PINE	NS	NS	NS	S	NS	0.0025	A	
228-091992H	1P228	ACROLEIN	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.0013	B	
Acrolein, UF resin, batch press									Average	0.0019		
									Minimum	0.0013		
									Maximum	0.0025		
030-012193A	1P030	BENZALD	M0011	SY PINE	NS	NS	NS	S	NS	0.0030	A	
228-091992H	1P228	BENZALD	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.0015	B	
1-1	1-1	BENZALD	M0011	HWOOD	86	SWOOD	14	NS	NS	0.00088	A	
Benzaldehyde, UF resin, batch press									Average	0.0018		
									Minimum	0.00088		
									Maximum	0.0030		

TABLE A-8. (Continued)

Test Code	Unit code	Pollutant(b)	Test method(c)	Wood species(d)				Cat/ Scav.?	Wax applic. rate	Emission factor, Lb/MSF 3/4	Data rating	Comments
				Primary	%	Second.	%					
030-012193A	1P030	BUTYLALDE	M0011	SY PINE	NS	NS	NS	S	NS	0.0031	A	
228-091992H	1P228	BUTYLALDE	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.0014	B	
1-1	1-1	BUTYLALDE	M0011	HWOOD	86	SWOOD	14	NS	NS	0.00092	A	
Butylaldehyde, UF resin, batch press									Average	0.0018		
									Minimum	0.00092		
									Maximum	0.0031		
1-2	1-2	BUTYLALDE	M0011	HWOOD	86	SWOOD	14	NS	NS	0.00014	A	Veneer press
Butylaldehyde, UF resin, veneer press									Average	0.00014		
228-091992H	1P228	CROTONALDE	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.00050	B	
Crotonaldehyde, UF resin, batch press									Average	0.00050		
030-012193A	1P030	FOR	M0011	SY PINE	NS	NS	NS	S	NS	0.49	A	Scavenger used
039-102692E	1P039	FOR	TO-5	HWOOD	55	SWOOD	45	Y	0.6%	0.056	B	
228-091992H	1P228	FOR	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.40	B	
1-1	1-1	FOR	M0011	HWOOD	86	SWOOD	14	NS	NS	0.11	A	
Formaldehyde, UF resin, batch press									Average	0.26		
									Minimum	0.056		
									Maximum	0.49		
1-2	1-2	FOR	M0011	HWOOD	86	SWOOD	14	NS	NS	0.0062	A	Veneer press
Formaldehyde, UF resin, veneer press									Average	0.0062		
166-100892A	1P166	FOR	N3500	NS	NS	NS	NS	NS	NS	0.28	D	NIOSH 3500
167-102190B	1P167	FOR	N3500	ASPEN	NS	MAPLE	NS	NS	NS	0.018	D	NIOSH 3500
167-102588B	1P167	FOR	N3500	HWOOD	100	NS	NS	NS	NS	0.18	D	NIOSH 3500
166-100892B	2P166	FOR	N3500	NS	NS	NS	NS	NS	NS	0.29	D	Discarded--rated D
202-030194A	1P202	FOR	M0011	PINE SP	70	SWOOD	30	NS	NS	0.077	D	Discarded--rated D
202-030194B	2P202	FOR	M0011	PINE SP	70	SWOOD	30	NS	NS	0.11	D	Discarded--rated D
030-012193A	1P030	HEXALD	M0011	SY PINE	NS	NS	NS	S	NS	0.020	A	
228-091992H	1P228	HEXALD	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.0047	B	
1-1	1-1	HEXALD	M0011	HWOOD	86	SWOOD	14	NS	NS	0.11	A	
Hexaldehyde, UF resin, batch press									Average	0.045		
									Minimum	0.0047		
									Maximum	0.11		
1-2	1-2	HEXALD	M0011	HWOOD	86	SWOOD	14	NS	NS	0.11	A	Veneer press
Hexaldehyde, UF resin, veneer press									Average	0.11		

TABLE A-8. (Continued)

Test Code	Unit code	Pollutant(b)	Test method(c)	Wood species(d)				Cat/ Scav.?	Wax applic. rate	Emission factor, Lb/MSF 3/4	Data rating	Comments
				Primary	%	Second.	%					
030-012193A	1P030	ISOVALALD	M0011	SY PINE	NS	NS	NS	S	NS	0.00094	A	
228-091992H	1P228	ISOVALALD	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.0013	B	
Isovaleraldehyde, UF resin, batch press									Average	0.0011		
									Minimum	0.00094		
									Maximum	0.0013		
228-091992H	1P228	MEK	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.00032	C	
1-1	1-1	MEK	M0011	HWOOD	86	SWOOD	14	NS	NS	0.0025	A	
Methyl ethyl ketone, UF resin, batch press									Average	0.0014		
									Minimum	0.00032		
									Maximum	0.0025		
1-2	1-2	MEK	M0011	HWOOD	86	SWOOD	14	NS	NS	0.00035	A	Veneer press
1-2	1-2	2-BUTANONE	M0030	HWOOD	86	SWOOD	14	NS	NS	0.00020	A	Veneer press
Methyl ethyl ketone (2-butanone), UF resin, veneer press									Average	0.00028		
									Minimum	0.00020		
									Maximum	0.00035		
1-2	1-2	A-PINENE	M0030	HWOOD	86	SWOOD	14	NS	NS	0.00054	A	
Alpha pinene, UF resin, batch press									Average	0.00054		
1-2	1-2	B-PINENE	M0030	HWOOD	86	SWOOD	14	NS	NS	0.00011	A	
Beta pinene, UF resin, batch press									Average	0.00011		
228-091992H	1P228	PROPIONALD	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	7.2E-05	C	
Propionaldehyde, UF resin, batch press									Average	7.2E-05		
1-2	1-2	TOLUENE	M0030	HWOOD	86	SWOOD	14	NS	NS	0.00047	A	
Toluene, UF resin, batch press									Average	0.00047		
030-012193A	1P030	VALALD	M0011	SY PINE	NS	NS	NS	S	NS	0.0058	A	
228-091992H	1P228	VALALD	M0011	PINE SP	80	HWOOD	20	Y	105 lb/hr	0.0020	B	
Valeraldehyde, UF resin, batch press									Average	0.0039		
									Minimum	0.0020		
									Maximum	0.0058		

(a) Factors for VOC on a propane basis and corrected by adding formaldehyde factor (0.26) and subtracting factor for nonVOC's (0.013 for acetone). NS = not

(b) Pollutant codes are identified in Table 4-6.

(c) Test methods: M5 = EPA Method 5; M201A = EPA Method 201A; OD8 = Oregon Department of Environmental Quality (ODEQ) Method 8; M201A/202 = EPA Method 201A followed by EPA Method 202; M25A = EPA Method 25A; M25 = EPA Method 25; M10 = EPA Method 10; M0030 = EPA Method 0030 (volatile organic sampling train); M0011 = BIF Method 0011 for aldehydes and ketones; TO-5 = TO-5, Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air; N3500 = NIOSH Method 3500,

(d) Wood species: SY PINE = Southern yellow pine; PINE SP = unknown pine species; HWOOD = unspecified hardwood species; ASPEN = aspen; MAPLE SWOOD = unspecified softwood species.

TABLE A-9. SUMMARY OF EMISSION FACTOR CALCULATIONS FOR PARTICLEBOARD COOLERS (a)

Test Code	Unit code	Pollutant(b)	No. of runs	Test method(c)	Resin type(d)	Cat./scav.?	Emission rate, Lb/hr	Production rate, MSF 3/4/hr	Emission factor Lb/MSF 3/4	Data rating	Comments
228-092392A	1C228	PM	1	M5	UF	Y	0.186	13.25	0.014	D	
Filterable PM, UF resin									Average	0.014	
228-092392A	1C228	PM10	1	M201A	UF	Y	0.0444	13.25	0.0034	D	
Filterable PM-10, UF resin									Average	0.0034	
228-092392A	1C228	PM10&CPM	1	M201A/20%	UF	Y	0.167	13.25	0.013	D	Not reported as separate factor.
CPM										0.0092	Calculated as PM10&CPM - PM10
Condensible PM, UF resin									Average	0.0092	
228-092292A	1C228	VOC	2	M25A	UF	Y	2.30	12.83	0.24	B	+ FOR(0.027) - nonVOC(0.0020)
167-102090D	1C167	VOC	3	M25A	UF	NS	0.120	9.986	0.040	B	+ FOR(0.027) - nonVOC(0.0020)
167-102588C	1C167	VOC	3	M25	UF	NS	3.39	8.29	0.52	A	+ FOR(0.027) - nonVOC(0.0020)
VOC as propane, UF resin (+FOR -nonVOC)									Average	0.27	
nonVOC = acetone (0.0020)									Minimum	0.040	
									Maximum	0.52	
166-100892C	1C166	FOR	2	N3500	UF	NS	0.0850	20.16	0.0040	D	NIOSH 3500
167-102090D	1C167	FOR	3	N3500	UF	NS	0.0210	9.986	0.0021	D	NIOSH 3500
167-102588C	1C167	FOR	3	N3500	UF	NS	0.443	8.29	0.050	D	NIOSH 3500
202-030194C	1C202	FOR	1	M0011	UF	NS	0.210	12.16	0.017	D	
202-030194D	2C202	FOR	1	M0011	UF	NS	0.150	14.22	0.011	D	
228-092292A	1C228	FOR	3	M0011	UF	Y	0.748	12.83	0.0541	C	
Formaldehyde, UF resin									Average	0.027	
									Minimum	0.011	
									Maximum	0.054	
228-092292A	1C228	ACETALD	3	M0011	UF	Y	0.0170	12.83	0.0013	A	
Acetaldehyde, UF resin									Average	0.0013	
228-092292A	1C228	ACETONE	3	M0011	UF	Y	0.0252	12.83	0.0020	A	
Acetone, UF resin									Average	0.0020	
228-092292A	1C228	ACROLEIN	3	M0011	UF	Y	0.00463	12.83	0.00036	A	
Acrolein, UF resin									Average	0.00036	
228-092292A	1C228	BENZALD	3	M0011	UF	Y	0.00541	12.83	0.00042	A	
Benzaldehyde, UF resin									Average	0.00042	
228-092292A	1C228	BUTYLALD	3	M0011	UF	Y	0.00769	12.83	0.00060	A	
Butylaldehyde, UF resin									Average	0.00060	
228-092292A	1C228	CROTONAL	3	M0011	UF	Y	0.00372	12.83	0.00029	A	
Crotonaldehyde, UF resin									Average	0.00029	
228-092292A	1C228	HEXALD	3	M0011	UF	Y	0.014	12.83	0.0011	A	
Hexaldehyde, UF resin									Average	0.0011	

TABLE A-9. (Continued)

Test Code	Unit code	Pollutant(b)	No. of runs	Test method(c)	Resin type(d)	Cat./scav.?	Emission rate, Lb/hr	Production rate, MSF 3/4/hr	Emission factor Lb/MSF 3/4	Data rating	Comments
228-092292A	1C228	ISOVALALE	3	M0011	UF	Y	0.00512	12.83	0.00040	A	
Isovaleraldehyde, UF resin									Average	0.00040	
228-092292A	1C228	MEK	3	M0011	UF	Y	0.00144	12.83	0.00011	A	
Methyl ethyl ketone, UF resin									Average	0.00011	
228-092292A	1C228	VALALD	3	M0011	UF	Y	0.019	12.83	0.0015	A	
Valeraldehyde, UF resin									Average	0.0015	

(a) NS = not specified. Factor for VOC on a propane basis. VOC factor corrected by adding formaldehyde and deducting nonVOC's (acetone).

(b) Pollutant codes identified in Table 4-6.

(c) Test methods: M5 = EPA Method 5; M201A = EPA Method 201A; M201A/202 = EPA Methods 201A and 202, PM-10 front and back half; M25A = EPA Method 25A; M25 = EPA Method 25; N3500 = NIOSH Method 3500; M0011 = BIF Method 0011 for aldehydes and ketones.

(d) Resin type: UF = urea formaldehyde.