

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	1009
4	EPA ID No.	ARD089234884
5	Facility Name	Eastman Chemicals Co. - Arkansas Eastman Div
6	Facility Location	
7	City	Batesville
8	State	AR
9	Unit ID Name/No.	Boiler No. 3
10	Other Sister Facilities	Boiler No. 2
11	Number of Sister Facilities	1
12	Combustor Class	Coal-fired boiler
13	Combustor Type	Stoker
14	Combustor Characteristics	Watertube boiler (stoker), stoker setup,
15	Capacity (MMBtu/hr)	100
16	Soot Blowing	
17	APCS Detailed Acronym	ESP
18	APCS General Class	ESP
19	APCS Characteristics	
20	Hazardous Wastes	Liq
21	Haz Waste Description	Mixed and unmixed solvents
22	Supplemental Fuel	Coal
23		
24	Stack Characteristics	
25	Diameter (ft)	
26	Height (ft)	
27	Gas Velocity (ft/sec)	
28	Gas Temperature (°F)	480
29		
	Permitting Status	BIF Interim Status Tier III for 4 metals (As, Be, Cr, Pb)/HCl/Cl2 and Tier 1A for remaining metals (failed to meet 99.99% DRE, but will retest by end of 1999)
30		
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Cond Description	
2		
3	1009C1	
4		
5	Report Name/Date	Boiler Trial Burn Report - Eastman Chemicals Company, Arkansas Eastman Div.; dated October 6, 1999
6	Report Prepar	Eastman Chemical Co
7	Testing Firm	METCO
8	Testing Dates	April 19-24, 1999
9	Cond Dates	Apr-99
10	Cond Description	Trial burn; min combustion temperature
11	Content	CO/HC, DRE
12		
13	1009C2	
14		
15	Report Name/Date	Boiler Trial Burn Report - Eastman Chemicals Company, Arkansas Eastman Div.; dated October 6, 1999
16	Report Prepar	Eastman Chemical Co
17	Testing Firm	METCO
18	Testing Dates	April 19-24, 1999
19	Cond Dates	Apr-99
20	Cond Description	Trial burn, risk burn; max conditions for feedrates and other parameters
21	Content	PM, CO/HC, HCl/Cl ₂ , metals, PCDD/PCDF, SVOCs/PAHs, DRE; POHCs, ash, metals, Cl feed analysis

	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Stack Gas Emissions												
2													
3		Comments	Units	7% O2									
4													
5	1009C1					R1		R2		R3		Cond Avg	
6													
7	Sampling Train	DRE POHCE1											
8	Stack Gas Flowrate		dscfm			21961		19962		20171		20698	
9	O2		%			13.6		13.4		13.4		13.5	
10	Moisture		%			5.99		7.12		6.92		6.7	
11	Temperature		°F			384		377		380		380.3	
12													
13	CO (MHRA)	E1	ppmv	y								649.0	
14	Assume that CO level has been corrected to 7% (although test report is not clear either way)												
15	Same with condition 2												
16													
17	HC (MHRA)		ppmv	y								5.0	
18	Assume that HC level has been corrected to 7% (although test report is not clear either way)												
19													
20	POHC DRE	Chlorobenzene											
21	POHC Feedrate		lb/hr			16.2		18.16		17.87			
22	Emission Rate	E1	lb/hr			1.47E-02		8.64E-03		1.30E-02			
23	DRE	E1	%			99.9093		99.9524		99.9273			
24													
25	1009C2					R1		R2		R3		Cond Avg	
26													
27	Sampling Train	PM	E1										
28	Stack Gas Flowrate		dscfm			22698		22566		22485		22583.0	
29	O2		%			8.2		8.6		8.1		8.3	
30	Moisture		%			10.9		12.9		13.1		12.30	
31	Temperature		°F			475		470		481		475	
32													
33	PM	E1	gr/dscf	y		0.0397		0.0357		0.0307		0.0352	
34													
35	CO (MHRA)	E1	ppmv	y								631	
36	assume has been corrected to 7% oxygen, although not clear in test report												
37													
38	HC (MHRA)	E1	ppmv	y								0	
39													
40	HCl		ppmv	n		531.2		676.8		687.4			
41	Cl2		ppmv	n		0.3		0.4		0.8			
42	HCl	E1	ppmv	y		581.00		764.13		746.02		697.05	
43	Cl2	E1	ppmv	y		0.33		0.45		0.87		0.549	
44	Total Chlorine	E1	ppmv	y		581.66		765.03		747.75		698.15	
45													
46	POHC DRE	Chlorobenzene											
47	POHC Feedrate	E1	lb/hr			64.94		70.29		72.38		69	
48	Emission Rate	E1											
49	DRE	E1	%			99.9997		99.9998		99.9996		99.9997	
50													
51	Sampling Train	Metals	E2										
52	Stack Gas Flowrate		dscfm			23146		22821		22382		22783	
53	O2		%			7.9		7.9		8		7.93	
54	Moisture		%			10.2		12.5		12.7		11.8	
55	Temperature		°F			485		477		484		482	
56													
57	Mercury		µg/dscm	n	nd	0.28	nd	0.29	nd	0.28			
58	Lead		µg/dscm	n		151		157	nd	169			
59	Cadmium		µg/dscm	n		1.2	nd	0.6	nd	0.8			
60	Arsenic		µg/dscm	n		88.7	nd	81.4	nd	89.8			
61	Beryllium		µg/dscm	n	nd	0.83	nd	1.1	nd	1.1			
62	Chromium		µg/dscm	n		114.00		125.40		151.00			
63	Antimony		µg/dscm	n		21.7		20.7		20.7			
64	Nickel		µg/dscm	n	nd	5.4		9.4		7.9			
65													
66	Mercury	E2	µg/dscm	y	nd	0.3	nd	0.3	nd	0.3	100	0.3	
67	Lead	E2	µg/dscm	y		161.4		167.8	nd	182.0	36	170.4	high nd?

	B	C	D	E	F	G	H	I	J	K	L	M	N
68	Cadmium	E2	µg/dscm	y		1.3	nd	0.6	nd	0.9	54	0.9	
69	Arsenic	E2	µg/dscm	y		94.8	nd	87.0	nd	96.7	66	92.8	high nd?
70	Beryllium	E2	µg/dscm	y	nd	0.9	nd	1.2	nd	1.2	100	1.1	
71	Chromium	E2	µg/dscm	y		121.8		134.0		162.6		139.5	
72	Antimony	E2	µg/dscm	y		23.2		22.1		22.3		22.5	
73	Nickel	E2	µg/dscm	y	nd	5.8		10.0		8.5	24	8.1	
74													
75	SVM	E2	µg/dscm	y		162.7	0.4	168.4		182.9	0.1	171.3	
76	LVM	E2	µg/dscm	y	0.41	217.5	40	222.2	38	260.5	27	233.4	
77													
78	Particle Size Distribution	in microns											
79	Median Particle Size		um			4.7		4.9		3.95		4.51	
80	< 2		%			24.5		23		24		23.8	
81	< 10		%			78.5		85		80		81.2	

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	Feedstreams																							
2																								
3																								
4	1009C1																							
5	Feedstream Number																							
6	7 Feed Class																							
7	Feedstream Description																							
8	9 Total HW Feedrate																							
9	Heating Value																							
10	Thermal Feedrate																							
11																								
12																								
13	Stack Gas Flowrate																							
14	O2																							
15																								
16	Estimated Firing Rate																							
17																								
18	1009C2																							
19	Feedstream Number																							
20	21 Feed Class																							
21	Feed Class 2																							
22	Feedstream Description																							
23	Feed Rate																							
24	Heating Value																							
25	Thermal Feedrate																							
26	Ash																							
27	Chlorine																							
28	Antimony																							
29	Arsenic																							
30	Barium																							
31	Beryllium																							
32	Cadmium																							
33	Chromium																							
34	Lead																							
35	Mercury																							
36	Nickel																							
37	Silver																							
38	Thallium																							
39																								
40																								
41	Stack Gas Flowrate																							
42	O2																							
43																								
44	Estimated Firing Rate																							
45																								
46	Feedrate MTEC Calculations																							
47	Ash																							
48	Chlorine																							
49	Antimony																							
50	Arsenic																							
51	Barium																							
52	Beryllium																							
53	Cadmium																							
54	Chromium																							
55	Lead																							
56	Mercury																							
57	Nickel																							
58	Silver																							

	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
1											
2											
3											
4	R3	Cond Avg	R1	R2	R3	Cond Avg					
5											
6		F3	F4	F4	F4	F4	F4	F4	F4	F4	F4
7		Coal	Coal	Total	Total	Total	Total	Total	Total	Total	Total
8		Coal	Coal	Total	Total	Total	Total	Total	Total	Total	Total
9		4229	4234.7	5114	5179	5190	5190	5190	5161	20143	54
10		11000	11333.3	20150	20870	19410	19410	19410	20143	20143	54
11		47	48.0	60	49	55	55	55	54	54	
12											
13											
14											
15											
16											
17											
18											
19											
20	R3	Cond Avg	R1	R2	R3	Cond Avg					
21		F3	F4	F4	F4	F4	F4	F4	F4	F4	F4
22		Coal	Coal	Total	Total	Total	Total	Total	Total	Total	Total
23		Coal	Coal	Total	Total	Total	Total	Total	Total	Total	Total
24		7547	7414	10969	11016	11210	11210	11210	11065	17073	93
25		8200	8400.0	16840	17480	16900	16900	16900	17073	17073	93
26		61.9	62.3	91	96	93	93	93	93	93	
27		1472	1543.3								
28		1.43	1.0								
29		0.1509	0.148								
30		0.0377	0.037								
31		0.7547	0.840								
32		0.0011	0.001								
33		0.003	0.003								
34		0.0204	0.024								
35		0.0302	0.030								
36		0.0007	0.001								
37		0.0219	0.023								
38		0.0053	0.005								
39		0.1509	0.148								
40											
41		22485	22583	22698	22566	22485	22485	22485	22583	22583	
42		8.1	8.3	8.2	8.6	8.1	8.1	8.1	8.3	8.3	
43											
44											
45											
46											
47		18996	20143	19068	22447	18996	18996	18996	20143	20143	
48		18454	13574	913987	991930	947626	947626	947626	950672	950672	
49		1947	1935	1907	1952	1947	1947	1947	1935	1935	
50		487	484	3330	3520	3447	3447	3447	3431	3431	
51		9740	10959	12393	10735	9740	9740	9740	10959	10959	
52		14	14	210	218	214	214	214	214	214	
53		39	39	39	39	39	39	39	39	39	
54		263	312	11894	12286	12241	12241	12241	12138	12138	
55		390	387	9729	10096	10088	10088	10088	9969	9969	
56		9	9	9	9	9	9	9	9	9	
57		283	300	325	293	283	283	283	300	300	
58		68	68	67	68	68	68	68	68	68	

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
59	Thallium		µg/dscm		0.0		0.0		0.0		0.0		0		0		0		0		1907			1952
60																								
61	SVM		µg/dscm		6.4		6.7		6.5		6.5		9341		9699		9692		9575		420.0			429.4
62	LVM		µg/dscm		21.9		93.6		25.6		46.5		14559		15116		15112		14927		854.2			813.3
63																								
64	BIF Feedrate Limits																							
65																								
66	Antimony																							
67	Arsenic		g/hr																					
68	Barium		g/hr																					
69	Beryllium		g/hr																					
70	Cadmium		g/hr																					
71	Chromium		g/hr																					
72	Lead		g/hr																					
73	Mercury		g/hr																					
74	Silver		g/hr																					
75	Thallium		g/hr																					

US EPA ARCHIVE DOCUMENT

	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
59	1947		1935		1907		1952		1947		1935
60											
61	428.5		425.9		9767		10135		10127		10008
62	764.0		810.5		15435		16023		15901		15784
63											
64											
65											
66											
67											
68											
69											
70											
71											
72											
73											
74											
75											

	A	B	C
1	Process Information		
2			
3		Units	Liq waste
4			
5	1009C1		Cond Avg
6			
7	Comb Chamber Temperature	°F	989
8	ESP Inlet Temperature	°F	396
9	ESP Power	kW	19
10			
11	1009C2		
12			
13	Comb Chamber Temperature	°F	1426
14	ESP Inlet Temperature	°F	502
15	ESP Power	kW	9

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	PCDD/PCDF																
2	N																
3	Facility Name and ID:	Eastman Chemicals Co. - Arkansas Eastman Div															
4	Condition ID:	1009C2															
5	Condition/Test Date:	April 1999, trial burn risk burn under worst case conditions															
6																	
7		I-TEF															
8		Wght Fact															
9					Run 1												
10					Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total
11	Detected in sample volume (ng)				Full ND	1/2 ND	Full ND	1/2 ND	Full ND	1/2 ND	Full ND	1/2 ND	Full ND	1/2 ND	Full ND	1/2 ND	Full ND
12	2,3,7,8-TCDD	1	nd	0.0279	0.0279	0.0140	0.0140	0.0140	0.0147	0.0074	0.0074	0.0074	nd	0.0302	0.0302	0.0151	0.0151
13	Total TCDD	0	nd	1.1000	0.0000	1.1000	0.0000	0.0000	0.0000	0.3425	0.0000	0.0000	nd	1.0620	1.0620	1.0620	0.0000
14	1,2,3,7,8-PCDD	0.5	nd	0.0600	0.0300	0.0300	0.0150	0.0150	0.0299	0.0150	0.0150	0.0075	nd	0.0717	0.0359	0.0359	0.0179
15	Total PCDD	0	nd	0.9160	0.0000	0.4580	0.0000	0.0000	0.4679	0.0000	0.2340	0.0000	nd	0.9210	0.0000	0.4605	0.0000
16	1,2,3,4,7,8-HxCDD	0.1	nd	0.0420	0.0042	0.0210	0.0021	0.0021	0.0279	0.0028	0.0140	0.0014	nd	0.0545	0.0055	0.0273	0.0027
17	1,2,3,6,7,8-HxCDD	0.1	nd	0.0724	0.0072	0.0362	0.0036	0.0036	0.0474	0.0047	0.0237	0.0024	nd	0.1166	0.0117	0.0583	0.0058
18	1,2,3,7,8,9-HxCDD	0.1	nd	0.0658	0.0066	0.0329	0.0033	0.0033	0.0374	0.0037	0.0187	0.0019	nd	0.0925	0.0093	0.0463	0.0046
19	Total HxCDD	0	nd	0.8070	0.0000	0.4035	0.0000	0.0000	0.4139	0.0000	0.2070	0.0000	nd	1.0120	0.0000	0.5060	0.0000
20	1,2,3,4,6,7,8-HpCDD	0.01	nd	0.3720	0.0037	0.1860	0.0019	0.0019	0.1691	0.0017	0.0846	0.0008	nd	0.5540	0.0055	0.2770	0.0028
21	Total HpCDD	0	nd	0.6820	0.0000	0.3410	0.0000	0.0000	0.3291	0.0000	0.1646	0.0000	nd	1.0240	0.0000	0.5120	0.0000
22	OCDD	0.001	nd	0.5970	0.0006	0.2985	0.0003	0.0003	0.2910	0.0003	0.1455	0.0001	nd	0.9800	0.0010	0.4900	0.0005
23	2,3,7,8-TCDF	0.1	nd	0.1270	0.0127	0.1270	0.0127	0.0127	0.0757	0.0076	0.0379	0.0038	nd	0.1230	0.0123	0.0615	0.0062
24	Total TCDF	0	nd	4.1000	0.0000	4.1000	0.0000	0.0000	2.2920	0.0000	2.2920	0.0000	nd	5.0800	0.0000	5.0800	0.0000
25	1,2,3,7,8-PCDF	0.05	nd	0.1300	0.0065	0.0650	0.0033	0.0033	0.0530	0.0027	0.0265	0.0013	nd	0.1700	0.0085	0.0850	0.0043
26	2,3,4,7,8-PCDF	0.5	nd	0.1800	0.0900	0.0900	0.0450	0.0450	0.0735	0.0368	0.0368	0.0184	nd	0.2260	0.1130	0.1130	0.0565
27	Total PCDF	0	nd	1.4000	0.0000	1.4000	0.0000	0.0000	0.6660	0.0000	0.3330	0.0000	nd	2.4200	0.0000	2.4200	0.0000
28	1,2,3,4,7,8-HxCDF	0.1	nd	0.1520	0.0152	0.0760	0.0076	0.0076	0.0666	0.0067	0.0333	0.0033	nd	0.2430	0.0243	0.1215	0.0122
29	1,2,3,6,7,8-HxCDF	0.1	nd	0.1190	0.0119	0.0595	0.0060	0.0060	0.0497	0.0050	0.0249	0.0025	nd	0.1590	0.0159	0.0795	0.0080
30	2,3,4,6,7,8-HxCDF	0.1	nd	0.0980	0.0098	0.0490	0.0049	0.0049	0.0423	0.0042	0.0212	0.0021	nd	0.1200	0.0120	0.0600	0.0060
31	1,2,3,7,8,9-HxCDF	0.1	nd	0.0160	0.0016	0.0080	0.0008	0.0008	0.0078	0.0008	0.0039	0.0004	nd	0.0165	0.0017	0.0083	0.0008
32	Total HxCDF	0	nd	0.5860	0.0000	0.2930	0.0000	0.0000	0.1266	0.0000	0.0633	0.0000	nd	0.8520	0.0000	0.4260	0.0000
33	1,2,3,4,6,7,8-HpCDF	0.01	nd	0.3160	0.0032	0.1580	0.0016	0.0016	0.1330	0.0013	0.0665	0.0007	nd	0.4020	0.0040	0.2010	0.0020
34	1,2,3,4,7,8,9-HpCDF	0.01	nd	0.0810	0.0008	0.0405	0.0004	0.0004	0.0358	0.0004	0.0179	0.0002	nd	0.0980	0.0010	0.0490	0.0005
35	Total HpCDF	0	nd	0.4760	0.0000	0.2380	0.0000	0.0000	0.1330	0.0000	0.0665	0.0000	nd	0.7020	0.0000	0.3510	0.0000
36	OCDF	0.001	nd	0.2270	0.0002	0.1135	0.0001	0.0001	0.1110	0.0001	0.0555	0.0001	nd	0.2630	0.0003	0.1315	0.0001
37	Gas sample volume (dscf)			122.17	122.17	122.17	122.17	122.17	124.56	124.56	124.56	124.56		126.51	126.51	126.51	126.51
38	O2 (%)			8.50	8.50	8.50	8.50	8.50	8.10	8.10	8.10	8.10		9.40	9.40	9.40	9.40
39																	
40	PCDD/PCDF (ng in sample)			10.8910	0.2321	8.7455	0.1224	0.1224	5.5155	0.1083	3.9038	0.0542		14.3160	0.2918	11.4390	0.1459
41	PCDD/PCDF (ng/dscm @ 7% O2)			94.5	0.0752	2.8330	0.0397	0.0397	100.0	1.6981	1.2019	0.0167	100.0	4.8258	0.0984	3.8560	0.0492
42																	
43	Total Cond Avg																
44	TEQ Cond Avg																