

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	835
4	EPA ID No.	LAD040776809
5	Facility Name	BASF
6	Facility Location	
7	City	Geismar
8	State	LA
9	Unit ID Name/No.	No. 3 Boiler
10	Other Sister Facilities	None
11	Number of Sister Facilities	0
12	Combustor Class	Liquid-fired boiler
13	Combustor Type	Liquid-fired
14	Combustor Characteristics	Watertube boiler. Babcock and Wilcox, D shaped, gas fired watertube field erected boiler with superheater and economizer, 285 MMBtu/hr, 205000 lb/hr steam @ 650 psig and 750°F
15	Capacity (MMBtu/hr)	285
16	Soot Blowing	
17	APCS Detailed Acronym	None
18	APCS General Class	
19	APCS Characteristics	NA
20	Hazardous Wastes	Liq
21	Haz Waste Description	Ignitable (D001), methanol, mixed alcohols, from production of THF and PTHF, butanediol light ends, TDA
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	48" x 94"
26	Height (ft)	70
27	Gas Velocity (ft/sec)	32.8
28	Gas Temperature (°F)	400
29		
30	Permitting Status	
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Cond Description	
2		
3	835C10	
4		
5	Report Name/Date	BASF Corp. DRE Trial Burn Report, March 1998, Rev. 2
6	Report Prepar	?
7	Testing Firm	METCO
8	Testing Dates	February 12-13, 1997
9	Cond Dates	Feb-97
10	Cond Description	Trial Burn
11	Content	DRE, PM, HCl/Cl ₂ , CO; metals, chlorine, ash feeds
12		
13	835C11	
14		
15	Report Name/Date	BASF Corp. DRE Trial Burn Report, March 1998, Rev. 2
16	Report Prepar	?
17	Testing Firm	METCO
18	Testing Dates	February 13-14, 1997
19	Cond Dates	Feb-97
20	Cond Description	Trial Burn
21	Content	DRE, PM, HCl/Cl ₂ , CO; metals, chlorine, ash feeds
22		
23	835C12	
24		
25	Report Name/Date	BASF Corp. DRE Trial Burn Report, March 1998, Rev. 2
26	Report Prepar	?
27	Testing Firm	METCO
28	Testing Dates	November 10-11, 1997
29	Cond Dates	Nov-97
30	Cond Description	Trial Burn
31	Content	DRE, PM, HCl/Cl ₂ , CO; metals, chlorine, ash feeds

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions											
2												
3		Comments	Units	7% O2								
4												
5												
6	835C10					R1		R2		R3		Cond Avg
7												
8	PM	E1	gr/dscf	y		0.0006		0.0008		0.0007		0.0007
9	CO (RA)	E1	ppmv	y		0		0		0		0
10	HCl		ppmv	n		0.01		0.01		0.02		
11	Cl2		ppmv	n		0.01		0.01		0.01		
12												
13	Sampling Train	PM HCl/Cl2	E1									
14	Stack Gas Flowrate		dscfm			32153		32620		32932		32568.3
15	O2		%			6.1		5.8		5.6		5.8
16	Moisture		%			16.2		16.1		15.9		16.1
17	Temperature		°F			399.2		390.2		404.6		398.0
18												
19	HCl	E1	ppmv	y		0.01		0.01		0.02		0.01
20	Cl2	E1	ppmv	y		0.01		0.01		0.01		0.01
21	Total Chlorine	E1	ppmv	y		0.03		0.03		0.04		0.03
22												
23	POHC DRE	Toluene										
24	Feedrate		lb/hr			206		206		216		
25	Emissions Rate		lb/hr			0.00206		0.00103		0.00108		
26	DRE	E1	%			99.999		99.9995		99.9995		
27												
28												
29												
30	835C11					R1		R2		R3		Cond Avg
31												
32	PM	E1	gr/dscf	y		0.0004		0.0004		0.0004		0.0004
33	CO (RA)	E1	ppmv	y		0		0		0		0
34	HCl		ppmv	n		0.02		0.02		0.01		
35	Cl2		ppmv	n		0.01		0.01		0.01		
36												
37	Sampling Train	PM, HCl/Cl2	E1									
38	Stack Gas Flowrate		dscfm			28710		27602		26813		27708.3
39	O2		%			7		7		6.8		6.9
40	Moisture		%			13.34		14.4		14.5		14.1
41	Temperature		°F			361.4		350.6		348.8		353.6
42												
43	HCl	E1	ppmv	y		0.02		0.02		0.01		0.02
44	Cl2	E1	ppmv	y		0.01		0.01		0.01		0.01
45	Total Chlorine	E1	ppmv	y		0.04		0.04		0.03		0.04
46												
47	POHC DRE	Toluene										
48	Feedrate		lb/hr			210		205		209		
49	Emissions Rate		lb/hr			0.00042		0.0002665		0.000418		
50	DRE	E1	%			99.9998		99.99987		99.9998		
51												
52												
53	835C12					R1		R2		R3		Cond Avg
54												
55	PM	E1	gr/dscf	y		0.0013		0.0014		0.001		0.0012
56	CO (RA)	E1	ppmv	y		0		0		0		0
57	HCl		ppmv	n		0.12		0.03		0.02		
58	Cl2		ppmv	n		0.07		0.13		0.02		
59												
60	Sampling Train	PM, HCl/Cl2	E1									
61	Stack Gas Flowrate		dscfm			44216		45104		44825		44715.0
62	O2		%			6.2		6		6.3		6.2
63	Moisture		%			18.5		17.9		18		18.1
64	Temperature		°F			575.6		566.6		570.2		570.8
65												
66	HCl	E1	ppmv	y		0.11		0.03		0.02		0.05
67	Cl2	E1	ppmv	y		0.07		0.12		0.02		0.07

	B	C	D	E	F	G	H	I	J	K	L	M
68	Total Chlorine	E1	ppmv	y		0.25		0.27		0.06		0.19
69												
70	POHC DRE	Toluene										
71	Feedrate		lb/hr			180		171		169		
72	Emissions Rate		lb/hr			0.00018		0.000171		0.000169		
73	DRE	E1	%			99.9999		99.9999		99.9999		

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Feedstreams																		
2																			
3																			
4	835C10																		
5	Feedstream Number																		
6	Feed Class																		
7	Feed Class 2																		
8	Feedstream Description																		
9	Feed Rate																		
10	Density																		
11	Heating Value																		
12	Ash																		
13	Chlorine																		
14	Antimony																		
15	Arsenic																		
16	Barium																		
17	Beryllium																		
18	Cadmium																		
19	Chromium																		
20	Lead																		
21	Mercury																		
22	Nickel																		
23	Selenium																		
24	Silver																		
25	Thallium																		
26																			
27																			
28																			
29	Stack Gas Flowrate																		
30	O2																		
31																			
32	Thermal Feedrate																		
33	Estimated Firing Rate																		
34																			
35	<i>Feedrate MTEC Calculations</i>																		
36	Ash																		
37	Chlorine																		
38	Antimony																		
39	Arsenic																		
40	Barium																		
41	Beryllium																		
42	Cadmium																		
43	Chromium																		
44	Lead																		
45	Mercury																		
46	Nickel																		
47	Selenium																		
48	Silver																		
49	Thallium																		
50																			
51	SVM																		
52	LVM																		
53																			
54																			
55																			
56	835C11																		
57	Feedstream Number																		
58																			

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
59	Feed Class			Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Total	Total	Total	Total	Total	Total	Total	Total
60	Feed Class 2			HW	HW	HW	HW	HW	HW	HW	Total	Total	Total	Total	Total	Total	Total	Total
61	Feedstream Description			Liquid waste	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Total	Total	Total	Total	Total	Total	Total	Total
62	Feed Rate	g/hr		2189138	2163782	2211634	2188,185	2211634	2188,185	2188,185								
63	Density	g/ml		0.87	0.87	0.87	0.87	0.87	0.87	0.87								
64	Heating Value	Btu/lb		9000	9000	9000	9000	9000	9000	9000								
65	Ash	g/hr	nd	2.1891 nd	2.1638 nd	2.2116	2.2116	2.2116	2.2116	9000								
66	Chlorine	g/hr	nd	1.095 nd	1.082 nd	1.106	1.106	1.106	1.106	0.87								
67	Antimony	g/hr	nd	0.09 nd	0.089 nd	0.091	0.091	0.091	0.091	0.87								
68	Arsenic	g/hr	nd	0.066 nd	0.065 nd	0.066	0.066	0.066	0.066	0.87								
69	Barium	g/hr	nd	0.3331 nd	0.327 nd	0.334	0.334	0.334	0.334	0.87								
70	Beryllium	g/hr	nd	0.004 nd	0.004 nd	0.004	0.004	0.004	0.004	0.87								
71	Cadmium	g/hr	nd	0.004 nd	0.004 nd	0.004	0.004	0.004	0.004	0.87								
72	Chromium	g/hr	nd	0.134 nd	0.132 nd	0.135	0.135	0.135	0.135	0.87								
73	Lead	g/hr	nd	0.044 nd	0.043 nd	0.044	0.044	0.044	0.044	0.87								
74	Mercury	g/hr	nd	0.074 nd	0.074 nd	0.075	0.075	0.075	0.075	0.87								
75	Nickel	g/hr	nd	0.066 nd	0.065 nd	0.066	0.066	0.066	0.066	0.87								
76	Selenium	g/hr	nd	0.112 nd	0.11 nd	0.113	0.113	0.113	0.113	0.87								
77	Silver	g/hr	nd	0.022 nd	0.022 nd	0.022	0.022	0.022	0.022	0.87								
78	Thallium	g/hr	nd	0.066 nd	0.065 nd	0.066	0.066	0.066	0.066	0.87								
79																		
80																		
81	Stack Gas Flowrate	dscfm		28710	27602	26813	27708.3	26813	27708.3	27708.3								
82	O2	%		7.0	7.0	6.8	6.9	6.8	6.9	6.9								
83																		
84	Thermal Feedrate	MMBtu/hr		43.4	42.9	43.8	43.4	43.8	43.4	43.4								
85	Estimated Firing Rate	MMBtu/hr		127.6	122.7	120.9	123.7	120.9	123.7	123.7								
86																		
87	Feedrate MTEC Calculations																	
88	Ash	mg/dscm	100	0.04	0.05	0.05	0.05	0.05	0.05	0.02	100	0.04	0.04	0.05	0.05	0.05	0.05	0.023
89	Chlorine	µg/dscm	100	22.5	23.1	24.0	11.6	24.0	23.09	11.6	100	22.46	22.46	23.95	23.95	23.95	23.95	11.58
90	Antimony	µg/dscm	100	1.8	1.9	2.0	0.95	2.0	1.90	0.95	100	1.85	1.85	1.97	1.97	1.97	1.97	0.95
91	Arsenic	µg/dscm	100	1.4	1.4	1.4	0.69	1.4	1.39	0.69	100	1.35	1.35	1.43	1.43	1.43	1.43	0.69
92	Barium	µg/dscm	100	6.8	7.0	7.2	3.51	7.2	6.98	3.51	100	6.83	6.83	7.23	7.23	7.23	7.23	3.51
93	Beryllium	µg/dscm	100	0.1	0.1	0.1	0.04	0.1	0.09	0.04	100	0.08	0.08	0.09	0.09	0.09	0.09	0.04
94	Cadmium	µg/dscm	100	0.1	0.1	0.1	0.04	0.1	0.09	0.04	100	0.08	0.08	0.09	0.09	0.09	0.09	0.04
95	Chromium	µg/dscm	100	2.7	2.8	2.9	1.41	2.9	2.82	1.41	100	2.75	2.75	2.92	2.92	2.92	2.92	1.41
96	Lead	µg/dscm	100	0.9	0.9	1.0	0.46	1.0	0.92	0.46	100	0.90	0.90	0.95	0.95	0.95	0.95	0.46
97	Mercury	µg/dscm	100	1.5	1.6	1.6	0.55	1.6	1.52	0.55	100	1.52	1.52	1.62	1.62	1.62	1.62	0.55
98	Nickel	µg/dscm	100	1.4	1.4	1.4	0.69	1.4	1.39	0.69	100	1.35	1.35	1.43	1.43	1.43	1.43	0.69
99	Selenium	µg/dscm	100	2.3	2.3	2.4	1.18	2.4	2.35	1.18	100	2.30	2.30	2.45	2.45	2.45	2.45	1.18
100	Silver	µg/dscm	100	0.5	0.5	0.5	0.23	0.5	0.47	0.23	100	0.45	0.45	0.48	0.48	0.48	0.48	0.23
101	Thallium	µg/dscm	100	1.4	1.4	1.4	0.69	1.4	1.39	0.69	100	1.35	1.35	1.43	1.43	1.43	1.43	0.69
102																		
103	SVM	µg/dscm	100	1.0	1.0	1.0	1.0	1.0	1.0	1.0	100	1.0	1.0	1.0	1.0	1.0	1.0	1.0
104	LVM	µg/dscm	100	4.2	4.3	4.4	4.3	4.4	4.3	4.3	100	4.2	4.2	4.3	4.3	4.3	4.3	4.3
105																		
106																		
107																		
108	835C12		R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg				
109	Feedstream Number																	
110	Feed Class		F1	F1	F1	F1	F1	F1	F1	F1	F2	F2	F2	F2	F2	F2	F2	F2
111	Feed Class 2		Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Total	Total	Total	Total	Total	Total	Total	Total
112	Feed Rate	g/hr	4082876	3964664	3951026	3,999,522	3951026	3951026	3,999,522	3,999,522								
113	Density	g/ml	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89								
114	Heating Value	Btu/lb	9000	9000	9000	9000	9000	9000	9000	9000								

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
117	Ash				8.1658	39.647	35.559												
118	Chlorine	g/hr			1.674	22.083	16.357												
119	Antimony	g/hr	nd		0.167 nd	0.163 nd	0.162												
120	Arsenic	g/hr	nd		0.122 nd	0.119 nd	0.119												
121	Barium	g/hr	nd		0.617 nd	0.599 nd	0.597												
122	Beryllium	g/hr	nd		0.008 nd	0.008 nd	0.008												
123	Cadmium	g/hr	nd		0.008 nd	0.008 nd	0.008												
124	Chromium	g/hr	nd		0.249 nd	0.242 nd	0.241												
125	Lead	g/hr	nd		0.082 nd	0.079 nd	0.079												
126	Mercury	g/hr	nd		0.139 nd	0.135 nd	0.134												
127	Nickel	g/hr	nd		0.122 nd	0.119 nd	0.119												
128	Selenium	g/hr	nd		0.208 nd	0.202 nd	0.202												
129	Silver	g/hr	nd		0.041 nd	0.04 nd	0.04												
130	Thallium	g/hr	nd		0.122 nd	0.119 nd	0.119												
131																			
132																			
133	Stack Gas Flowrate	dscfm			44216	45104	44825		44825	44715									
134	O2	%			6.2	6	6.3		6.3	6.17									
135																			
136	Thermal Feedrate	MMBtu/hr			80.9	78.6	78.3		78.3	79.3									
137	Estimated Firing Rate	MMBtu/hr								298.1									
138																			
139	<i>Feedrate MTEC Calculations</i>																		
140	Ash				0.1	0.5	0.4		0.4	0.3									
141	Chlorine	µg/dscm			21.1	269.1	204.7		204.7	165.0									
142	Antimony	µg/dscm	100		2.1	2.0	2.0		2.0	1.0									
143	Arsenic	µg/dscm	100		1.5	1.5	1.5		1.5	0.7									
144	Barium	µg/dscm	100		7.8	7.3	7.5		7.5	3.8									
145	Beryllium	µg/dscm	100		0.1	0.1	0.1		0.1	0.0									
146	Cadmium	µg/dscm	100		0.1	0.1	0.1		0.1	0.0									
147	Chromium	µg/dscm	100		3.1	2.9	3.0		3.0	1.5									
148	Lead	µg/dscm	100		1.0	1.0	1.0		1.0	0.5									
149	Mercury	µg/dscm	100		1.8	1.6	1.7		1.7	0.8									
150	Nickel	µg/dscm	100		1.5	1.5	1.5		1.5	0.7									
151	Selenium	µg/dscm	100		2.6	2.5	2.5		2.5	1.3									
152	Silver	µg/dscm	100		0.5	0.5	0.5		0.5	0.3									
153	Thallium	µg/dscm	100		1.5	1.5	1.5		1.5	0.7									
154																			
155	SVM	µg/dscm	100		1.1	1.1	1.1		1.1	1.1									
156	LVM	µg/dscm	100		4.8	4.5	4.6		4.6	4.6									
157																			
158																			
159	Tier I BIF Limits																		
160																			
161	Antimony	g/hr			196														
162	Arsenic	g/hr			1.3														
163	Barium	g/hr			29381														
164	Beryllium	g/hr			0.34														
165	Cadmium	g/hr			0.64														
166	Chlorine	g/hr			483														
167	Chromium	g/hr			1.95														
168	Lead	g/hr			218														
169	Mercury	g/hr			218														
170	Silver	g/hr			3017														
171	Thallium	g/hr			409														

	A	B	C	D	E	F
1	Process Information					
2						
3		Units	Run	Run	Run	Avg
4			1	2	3	
5	835C10					
6						
7	Steam Production	lb/hr	116230	119270	118830	118110
8						
9	835C11					
10						
11	Steam Production	lb/hr	89700	88320	88110	88710
12						
13	835C12					
14						
15	Steam Production	lb/hr	170200	177200	170200	172533