

US EPA ARCHIVE DOCUMENT

	B	C
1	<b>Source Description</b>	
2		
3	Phase II ID No.	833
4	EPA ID No.	TXD008081697
5	Facility Name	BASF Corporation
6	Facility Location	
7	City	Freeport
8	State	TX
9	Unit ID Name/No.	Neol 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	
15	Capacity (MMBtu/hr)	
16	Soot Blowing	
17	APCS Detailed Acronym	None
18	APCS General Class	
19	APCS Characteristics	NA
20	Hazardous Wastes	Liq
21	Haz Waste Description	Wastewater, HDO Heavies Waste
22	Supplemental Fuel	?
23		
24	Stack Characteristics	
25	Diameter (ft)	2.4
26	Height (ft)	54.1
27	Gas Velocity (ft/sec)	
28	Gas Temperature (°F)	
29		
30	Permitting Status	Tier I for metals and chlorine
	HWC Burn Status (Date if	
31	Terminated)	

	B	C
1	<b>Cond Description</b>	
2		
3	<b>833C10</b>	
4		
5	Report Name/Date	Source Emission Survey BASF Corp. NOEL Boiler Stack (EPN 5-5-08) Trial Burn, no date listed (Risk Burn also included)
6	Report Prepare	METCO Environmental
7	Testing Firm	not identified
8	Testing Dates	May 19-20, 1998
9	Cond Dates	May-98
10	Condition Descr	Trial burn; Wastewater and HDO Heavies Waste Feeds
11	Content	Monochlorobenzene DRE; PM/CO/Chlorine Stack Emissions; Ash/Metals/Chlorine Feed Analysis
12		
13	<b>833C11</b>	
14		
15	Report Name/Date	Source Emission Survey BASF Corp. NOEL Boiler Stack (EPN 5-5-08) Trial Burn, no date listed (Risk Burn also included)
16	Report Prepare	METCO Environmental
17	Testing Firm	not identified
18	Testing Dates	May 20 1998
19	Cond Dates	May-98
20	Condition Descr	Trial burn; HDO Heavies Waste Feeds
21	Content	PM/CO/Chlorine Stack Emissions; Ash/Metals/Chlorine Feed Analysis
22		
23	<b>833C12</b>	
24		
25	Report Name/Date	Source Emission Survey BASF Corp. NOEL Boiler Stack (EPN 5-5-08) Trial Burn, no date listed (Risk Burn also included)
26	Report Prepare	METCO Environmental
27	Testing Firm	not identified
28	Testing Dates	May 26-29, 1998
29	Cond Dates	May-98
30	Condition Descr	Risk burn
31	Content	Metals, aldehydes/ketones, dioxins/furans, SVOCs, total organics, VOCs as stack emissions

	B	C	D	E	F	G	H	I	J	K	L	M
1	<b>Stack Gas Emissions</b>											
2												
3		Comments	Units	7% O2								
4												
5												
6	<b>833C10</b>	<b>Trial Burn</b>				R1		R2		R3		Cond Avg
7												
8	PM	E1	gr/dscf	y		0.0204		0.0136		0.0181		0.0
9	HCl	E1	ppmv	n		3.07		9.76		16.16		9.7
10	Cl2	E1	ppmv	n		0.03		0.02		0.01		0.0
11												
12	Sampling Train	PM	E1									
13	Stack Gas Flowrate		dscfm			10158		10353		10086		10199.0
14	O2		%			6.6		6.3		6.5		6.5
15	Moisture		%			33.14		32.4		33.01		32.9
16	Temperature		°F			564		568		590		574.0
17												
18	HCl	E1	ppmv	y		3.0		9.3		15.6		9.29
19	Cl2	E1	ppmv	y		0.0		0.0		0.0		0.02
20	Total Chlorine	E1	ppmv	y		3.0		9.3		15.6		9.33
21												
22	POHC DRE	Monochlorobenzene										
23	POHC Feedrate		lb/hr			11.1		11.1		11.1		
24	Emissions Rate		lb/hr			0.00022		0.0003327		0.000333		
25	DRE	E1	%		>	99.998	>	99.997	>	99.997		
26												
27												
28	<b>833C11</b>					R1		R2		R3		Cond Avg
29												
30	PM	E1	gr/dscf	y		0.0128		0.0115		0.0105		0.0116
31	HCl	E1	ppmv	n		12.65		18.55		22		17.73
32	Cl2	E1	ppmv	n		0.02		0.02		0.02		0.02
33												
34	Sampling Train	PM	E1									
35	Stack Gas Flowrate		dscfm			10669		10609		10680		10652.7
36	O2		%			4.4		3.5		3.7		3.9
37	Moisture		%			19.71		19.65		19.6		19.7
38	Temperature		°F			630		638		645		637.7
39												
40	HCl	E1	ppmv	y		10.7		14.8		17.8		14.4
41	Cl2	E1	ppmv	y		0.0		0.0		0.0		0.0
42	Total Chlorine	E1	ppmv	y		10.7		14.9		17.8		14.5
43												
44	POHC DRE	Monochlorobenzene										
45	POHC Feedrate		lb/hr			10.95		11.1		11.1		
46	Emissions Rate		lb/hr			0.00066		0.000777		0.000777		
47	DRE	E1	%		>	99.994	>	99.993	>	99.993		
48												
49												
50	<b>833C12</b>					R1		R2		R3		Cond Avg
51												
52	Sampling Train	Metals	E1									
53	Stack Gas Flowrate		dscfm			10159		10001		10100		10087
54	O2		%			5		5.8		6.4		6
55	Moisture		%			29.45		30.53		29.09		30
56	Temperature		°F			627		640		649		639
57												
58	Chromium (Hex)	E1	µg/dscm	y		3.46		2.70		2.13		2.76
59	Nickel	E1	µg/dscm	y	nd	0.0001	nd	0.0001	nd	0.0001	100	0.00006
60	Selenium	E1	µg/dscm	y	nd	0.0006	nd	0.0006	nd	0.0006	100	0.00028
61	Zinc	E1	µg/dscm	y	nd	0.0009	nd	0.0016	nd	0.0014	100	0.00065
62												
63	<b>Particle Size Distribution</b>	<b>in microns</b>										
64	Median Size um					0.94	<	0.76		0.9		
65	Particles < 2 um					70.5		91		74.5		
66	Particles < 10 um					93		98		94		

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	<b>Feedstreams</b>																							
2																								
3																								
4	<b>833C10</b>																							
5	Feedstream Number																							
6	Feed Class																							
7	Feed Class 2																							
8	Feedstream Description																							
9	Feed Rate																							
10	Heating Value																							
11	Viscosity																							
12	Density																							
13	Ash																							
14	Chlorine																							
15	Antimony																							
16	Arsenic																							
17	Barium																							
18	Beryllium																							
19	Cadmium																							
20	Chromium																							
21	Lead																							
22	Mercury																							
23	Silver																							
24	Thallium																							
25	Stack Gas Flowrate																							
26	Oxygen																							
27	Thermal Feedrate																							
28	Estimated Firing Rate																							
29	Need total waste feedrates to make Feedrate MTEC Calculations																							
30																								
31	<b>833C11</b>																							
32	Feedstream Number																							
33	Feed Class																							
34	Feed Class 2																							
35	Feedstream Description																							
36	Feed Rate																							
37	Heating Value																							
38	Viscosity																							
39	Density																							
40	Ash																							
41	Chlorine																							
42	Antimony																							
43	Arsenic																							
44	Barium																							
45	Beryllium																							
46	Cadmium																							
47	Chromium																							
48	Lead																							
49	Mercury																							
50	Silver																							
51	Thallium																							
52	Stack Gas Flowrate																							
53	Oxygen																							
54																								
55																								
56																								
57																								
58																								
59																								
60																								

	B	AA	AB	AC	AD	AE	AF	AG
1	Feedstreams							
2								
3								
4	<b>833C10</b>		R3			Cond Avg		Cond Avg
5								
6	Feedstream Number		F3			F3		F4
7	Feed Class		Spike			Spike		Total
8	Feed Class 2		Spike			Spike		Total
9	Feedstream Description		Spike MCB			Spike MCB		
10	Feed Rate		11.1			11.10		
11	Heating Value							
12	Viscosity							
13	Density							
14	Ash							
15	Chlorine							
16	Antimony							
17	Arsenic							
18	Barium							
19	Beryllium							
20	Cadmium							
21	Chromium							
22	Lead							
23	Mercury							
24	Silver							
25	Thallium							
26								
27	Stack Gas Flowrate					10199		
28	Oxygen					6.5		
29								
30	Thermal Feedrate							47.06
31	Estimated Firing Rate							
32								
33	Need total waste feedra							
34								
35	<b>833C11</b>					Cond Avg		Cond Avg
36								
37	Feedstream Number		F2			F3		
38	Feed Class		Spike			Total		
39	Feed Class 2		Spike			Total		
40	Feedstream Description		Spike MCB			Total		
41	Feed Rate		11.04					
42	Heating Value							
43	Viscosity							
44	Density							
45	Ash							
46	Chlorine							
47	Antimony							
48	Arsenic							
49	Barium							
50	Beryllium							
51	Cadmium							
52	Chromium							
53	Lead							
54	Mercury							
55	Silver							
56	Thallium							
57								
58	Stack Gas Flowrate							
59	Oxygen							
60								

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
61	Estimated Firing Rate																								
62																									
63	Need total waste feedrates to make Feedrate MTEC Calculations																								
64																									
65	<b>833C12</b>																								
66																									
67	Feedstream Number																								
68	Feed Class																								
69	Feed Class 2																								
70	Feedstream Description																								
71	Feed Rate																								
72	Heating Value																								
73	Viscosity																								
74	Density																								
75	Ash																								
76	Chlorine																								
77	Antimony																								
78	Arsenic																								
79	Barium																								
80	Beryllium																								
81	Cadmium																								
82	Chromium																								
83	Lead																								
84	Mercury																								
85	Silver																								
86	Thallium																								
87																									
88	Stack Gas Flowrate																								
89	Oxygen																								
90																									
91	Estimated Firing Rate																								
92																									
93	Need total waste feedrates to make Feedrate MTEC Calculations																								

	B	AA	AB	AC	AD	AE	AF	AG
61	Estimated Firing Rate			57.9				
62	Need total waste feedra							
63								
64								
65	<b>833C12</b>							
66								
67	Feedstream Number							
68	Feed Class							
69	Feed Class 2							
70	Feedstream Description							
71	Feed Rate							
72	Heating Value							
73	Viscosity							
74	Density							
75	Ash							
76	Chlorine							
77	Antimony							
78	Arsenic							
79	Barium							
80	Beryllium							
81	Cadmium							
82	Chromium							
83	Lead							
84	Mercury							
85	Silver							
86	Thallium							
87								
88	Stack Gas Flowrate							
89	Oxygen							
90								
91	Estimated Firing Rate							
92								
93	Need total waste feedra							



	A
1	Process Information
2	
3	Nothing available

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<b>PCDD/PCDF</b>																
2	N																
3	Facility Name and ID:	BASF, Freeport, TX															
4	Condition ID:	833C12															
5	Condition/Test Date :	Risk burn. May 26-28, 1998															
6																	
7	<b>833C3</b>																
8		I-TEF															
9		Wght Fact															
10	Detected in sample volume (ng)																
11	2,3,7,8-TCDD	1	nd	0.0030	0.0030	0.0015	0.0015	nd	0.004	0.0040	0.0020	0.0020	nd	0.02	0.0200	0.0100	0.0100
12	TCDD Total	0		0.0150	0.0000	0.0150	0.0000		0.004	0.0000	0.0040	0.0000		0.009	0.0000	0.0090	0.0000
13	1,2,3,7,8-PCDD	0.5	nd	0.0040	0.0020	0.0010	0.0010	nd	0.005	0.0025	0.0025	0.0013	nd	0.004	0.0020	0.0020	0.0010
14	PCDD Total	0	nd	0.0040	0.0000	0.0020	0.0000	nd	0.005	0.0000	0.0025	0.0000	nd	0.004	0.0000	0.0020	0.0000
15	1,2,3,4,7,8-HxCDD	0.1	nd	0.0070	0.0007	0.0035	0.0004	nd	0.008	0.0008	0.0040	0.0004	nd	0.008	0.0008	0.0040	0.0004
16	1,2,3,6,7,8-HxCDD	0.1	nd	0.0070	0.0007	0.0035	0.0004	nd	0.008	0.0008	0.0040	0.0004	nd	0.008	0.0008	0.0040	0.0004
17	1,2,3,7,8,9-HxCDD	0.1	nd	0.0060	0.0006	0.0030	0.0003	nd	0.007	0.0007	0.0035	0.0004	nd	0.007	0.0007	0.0035	0.0004
18	HxCDD Total	0	nd	0.0070	0.0000	0.0035	0.0000	nd	0.008	0.0000	0.0040	0.0000	nd	0.008	0.0000	0.0040	0.0000
19	1,2,3,4,6,7,8-HpCDD	0.01		0.0130	0.0001	0.0130	0.0001		0.015	0.0002	0.0150	0.0002		0.013	0.0001	0.0130	0.0001
20	HpCDD Total	0		0.0130	0.0000	0.0130	0.0000		0.015	0.0000	0.0150	0.0000		0.013	0.0000	0.0130	0.0000
21	OCDD	0.001		0.0360	0.0000	0.0360	0.0000		0.092	0.0001	0.0920	0.0001		0.029	0.0000	0.0290	0.0000
22	2,3,7,8-TCDF	0.1		0.0070	0.0007	0.0070	0.0007		0.034	0.0034	0.0340	0.0034		0.008	0.0008	0.0080	0.0008
23	TCDF Total	0		0.0170	0.0000	0.0170	0.0000		0.17	0.0000	0.1700	0.0000		0.14	0.0000	0.1400	0.0000
24	1,2,3,7,8-PCDF	0.05		0.0150	0.0008	0.0150	0.0008		0.008	0.0004	0.0080	0.0004	nd	0.005	0.0003	0.0025	0.0001
25	2,3,4,7,8-PCDF	0.5		0.0090	0.0045	0.0090	0.0045		0.006	0.0030	0.0060	0.0030	nd	0.005	0.0025	0.0025	0.0013
26	PCDF Total	0		0.1500	0.0000	0.1500	0.0000		0.053	0.0000	0.0530	0.0000		0.024	0.0000	0.0240	0.0000
27	1,2,3,4,7,8-HxCDF	0.1		0.0320	0.0032	0.0320	0.0032		0.018	0.0018	0.0180	0.0018		0.01	0.0010	0.0100	0.0010
28	1,2,3,6,7,8-HxCDF	0.1		0.0290	0.0029	0.0290	0.0029		0.013	0.0013	0.0130	0.0013		0.008	0.0008	0.0080	0.0008
29	2,3,4,6,7,8-HxCDF	0.1		0.0180	0.0018	0.0180	0.0018		0.008	0.0008	0.0080	0.0008	nd	0.005	0.0005	0.0025	0.0003
30	1,2,3,7,8,9-HxCDF	0.1		0.0120	0.0012	0.0120	0.0012		0.008	0.0008	0.0080	0.0008	nd	0.005	0.0005	0.0025	0.0003
31	HxCDF Total	0		0.2200	0.0000	0.2200	0.0000		0.082	0.0000	0.0820	0.0000		0.039	0.0000	0.0390	0.0000
32	1,2,3,4,6,7,8-HpCDF	0.01		0.1700	0.0017	0.1700	0.0017		0.13	0.0013	0.1300	0.0013		0.067	0.0007	0.0670	0.0007
33	1,2,3,4,7,8,9-HpCDF	0.01		0.0510	0.0005	0.0510	0.0005		0.051	0.0005	0.0510	0.0005		0.021	0.0002	0.0210	0.0002
34	HpCDF Total	0		0.2700	0.0000	0.2700	0.0000		0.22	0.0000	0.2200	0.0000		0.11	0.0000	0.1100	0.0000
35	OCDF	0.001		0.4000	0.0004	0.4000	0.0004		0.64	0.0006	0.6400	0.0006		0.18	0.0002	0.1800	0.0002
36																	
37	Gas sample volume (dscf)			118.36	118.36	118.36	118.36		119.40	119.40	119.40	119.40		117.70	117.70	117.70	117.70
38	O2 (%)			5.00	5.00	5.00	5.00		5.80	5.80	5.80	5.80		6.40	6.40	6.40	6.40
39																	
40	PCDD/PCDF (ng in sample)			1.1320	0.0248	1.1265	0.0213		1.2890	0.0230	1.2825	0.0186		0.5560	0.0319	0.5500	0.0178
41	PCDD/PCDF (ng/dscm @ 7% O2)			28.2	0.2957	0.0065	0.2943	38.3	0.3514	0.0063	0.3496	0.0051	88.0	0.1601	0.0092	0.1583	0.0051
42																	
43	TEQCondAvg			0.0053													
44	TotalCondAvg			0.2674													