

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	788
4	EPA ID No.	TXD008092793
5	Facility Name	Dow Chemical Company
6	Facility Location	
7	City	Freeport
8	State	TX
9	Unit ID Name/No.	B-824
10	Other Sister Facilities	None
11	Number of Sister Facilities	0
12	Combustor Class	HCl Production Furnace
13	Combustor Type	
14	Combustor Characteristics	Vertical fired, open chamber, manufactured by Dow Chemical Proprietary Design, capacity 88 MMBtu/hr, operated @ 1100-1350C, designed to recover MgCl2
15	Capacity (MMBtu/hr)	88
16	Soot Blowing	None
17	APCS Detailed Acronym	MGCLREC/VS/SEP/DM
18	APCS General Class	LEWS, HEWS, Cyclone
19	APCS Characteristics	(Venturi scrubber, separator, demister) J-3 Venturi Scrubber, S-3 Separator, and inorganic reducing agent to capture HCl/Cl2. The gas passes through S-30 demister to remove entrained droplets.
20	Hazardous Wastes	Liq
21	Haz Waste Description	Liquid wastes (Allyl Crude PDC, Trichlor-B-Recycle)
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	3.5
26	Height (ft)	150
27	Gas Velocity (ft/sec)	25.2
28	Gas Temperature (°F)	99.7
29		
30	Permitting Status	Tier I for metals, Tier III (Cr+6)
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Cond Description	
2		
3	788C1	
4		
5	Report Name/Date	B-824 Trial Burn Report and Risk Burn Report, March 13, 1998
6	Report Prepare	Focus Environmental, Inc.
7	Testing Firm	METCO Environmental
8	Testing Dates	November 7, 1997
9	Cond Dates	Nov-97
10	Condition Descr	Trial burn, max feed rate and comb temp
11	Content	PM, HCl/Cl ₂ , Cr+6
12		
13	788C2	
14		
15	Report Name/Date	B-824 Trial Burn Report and Risk Burn Report, March 13, 1998
16	Report Prepare	Focus Environmental, Inc.
17	Testing Firm	METCO Environmental
18	Testing Dates	November 6, 1997
19	Cond Dates	Nov-97
20	Condition Descr	Trial burn, DRE, min comb temp and max stack gas flow
21	Content	CO, DRE (chlorobenzene)
22		
23	788C3	
24		
25	Report Name/Date	B-824 Trial Burn Report and Risk Burn Report, March 13, 1998
26	Report Prepare	Focus Environmental, Inc.
27	Testing Firm	METCO Environmental
28	Testing Dates	November 4-5, 1997
29	Cond Dates	Nov-97
30	Condition Descr	Risk burn, max liq waste feed rate, normal comb temp
31	Content	Stack gas metals, PCDD/F, other organics, PSD

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions											
2												
3		Comments	Units	7% O2		1		2		3		Cond Avg
4												
5	788C1	Capacity Burn				R1		R2		R3		Cond Avg
6												
7	PM	E1	gr/dscf	y		0.0034		0.0041		0.0038		0.0038
8	CO (MHRA)	E1	ppmv	y		45		6		6		19
9	CO (RA)	E1	ppmv	y		13.4		5.7		6		8.4
10	Chromium (Hex)					0.038		0.23		0.051		0.11
11	HCl		g/hr			79		92		75		82
12	Cl2		g/hr			4.7		280		8.7		99
13												
14	Chromium (Hex)	E2	µg/dscm	y		1.5		10.0		2.1		4.4
15	HCl	E1	ppmv	y		2.1		2.7		2.1		2.3
16	Cl2	E1	ppmv	y		0.1		4.2		0.1		1.4
17	Total Chlorine	E1	ppmv	y		2.23		11.03		2.31		5.1
18												
19	Sampling Train	PM, HCl/Cl2	E1									
20	Stack Gas Flowrate		dscfm			15128		13747		14681		14519
21	O2		%			7.3		7.2		7.4		7.3
22	Moisture		%									
23	Temperature		°F									
24												
25	Sampling Train	Cr+6	E2									
26	Stack Gas Flowrate		dscfm			15329		14800		14820		14983
27	O2		%									
28	Moisture		%									
29	Temperature		°F									
30												
31	788C2	DRE Burn				R1		R2		R3		Cond Avg
32												
33	CO (MHRA)	E1	ppmv	y		2		2		2		2
34	CO (RA)	E1	ppmv	y		1.8		1.8		1.7		1.8
35												
36	POHC DRE	Chlorobenzene										
37	POHC Feedrate		lb/hr			500		500		500		
38	Emission Rate	E1	lb/hr			1.05E-04		1.34E-04		1.93E-04		
39	DRE	E1	%			99.99998		99.99997		99.99996		
40												
41	Sampling Train	DRE	E1									
42	Stack Gas Flowrate		dscfm			16030		15972		15789		15930
43	O2		%									
44	Moisture		%									
45	Temperature		°F									
46												
47												
48												
49	788C3	Risk Burn				R1		R2		R3		Cond Avg
50												
51	CO (MHRA)	E1	ppmv	y		39		25		36.9		33.6
52	CO (RA)	E1	ppmv	y		12.8		7.2		6.1		8.7
53	Antimony		µg/dscf	n	nd	0.006	nd	0.006	nd	0.006		
54	Arsenic		µg/dscf	n	nd	0.008	nd	0.008	nd	0.008		
55	Barium		µg/dscf	n		0		0		0.0039		
56	Beryllium		µg/dscf	n	nd	0.002	nd	0.002	nd	0.002		
57	Cadmium		µg/dscf	n	nd	0.003	nd	0.003	nd	0.003		
58	Chromium		µg/dscf	n		0.13		0.034		0.079		
59	Cobalt		µg/dscf	n		0		0.033		0.011		
60	Copper		µg/dscf	n		0.22		1.8		1.7		
61	Lead		µg/dscf	n	nd	0.01	nd	0.01	nd	0.01		
62	Manganese		µg/dscf	n		0		0.053		0.041		
63	Mercury		µg/dscf	n		0.0054		0.0063		0.003		
64	Molybdenum		µg/dscf	n		0.0038		0		0		
65	Nickel		µg/dscf	n		0		0.42		0.36		
66	Selenium		µg/dscf	n	nd	0.006	nd	0.006	nd	0.006		
67	Silver		µg/dscf	n	nd	0.004	nd	0.004	nd	0.004		
68	Thallium		µg/dscf	n	nd	0.01	nd	0.01	nd	0.01		
69	Vanadium		µg/dscf	n	nd	0.01	nd	0.01	nd	0.01		
70												
71	Antimony	E1	µg/dscm	y	nd	0.22	nd	0.22	nd	0.22	100	0.22

	B	C	D	E	F	G	H	I	J	K	L	M
72	Arsenic	E1	µg/dscm	y	nd	0.29	nd	0.29	nd	0.29	100	0.29
73	Barium	E1	µg/dscm	y		0.14		0.00		0.14		0.09
74	Beryllium	E1	µg/dscm	y	nd	0.07	nd	0.07	nd	0.07	100	0.07
75	Cadmium	E1	µg/dscm	y	nd	0.11	nd	0.11	nd	0.11	100	0.11
76	Chromium	E1	µg/dscm	y		4.69		1.22		2.87		2.93
77	Cobalt	E1	µg/dscm	y		0		1.18		0.40		0.53
78	Copper	E1	µg/dscm	y		7.94		64.53		61.84		44.77
79	Lead	E1	µg/dscm	y	nd	0.36	nd	0.36	nd	0.36	100	0.36
80	Manganese	E1	µg/dscm	y		0		1.90		1.49		1.13
81	Mercury	E1	µg/dscm	y		0.19		0.23		0.11		0.18
82	Molybdenum	E1	µg/dscm	y		0.14		0.00		0.00		0.05
83	Nickel	E1	µg/dscm	y		0.00		15.06		13.09		9.38
84	Selenium	E1	µg/dscm	y	nd	0.22	nd	0.22	nd	0.22	100	0.22
85	Silver	E1	µg/dscm	y	nd	0.14	nd	0.14	nd	0.15	100	0.14
86	Thallium	E1	µg/dscm	y	nd	0.36	nd	0.36	nd	0.36	100	0.36
87	Vanadium	E1	µg/dscm	y	nd	0.36	nd	0.36	nd	0.36	100	0.36
88	SVM	E1	µg/dscm	y	100	0.47	100	0.47	100	0.47	100	0.47
89	LVM	E1	µg/dscm	y	7.1	5.06	23	1.58	11	3.24	11	3.29
90												
91	Sampling Train	Metals	E1									
92	Stack Gas Flowrate		dscfm			15289		15460		14847		15198.7
93	O2		%									
94	Moisture		%									
95	Temperature		°F									
96												
97	Sampling Train	PCDD/PCDF	E2									
98	Stack Gas Flowrate		dscfm			15976		15013		14811		15266.7
99	O2		%									
100	Moisture		%									
101	Temperature		°F			100		98		101		99.7
102												
103	Particle Size Distribution in microns											
104	0.2-0.5		% wt			0.2						
105	0.5-0.9		% wt			0.5						
106	0.9-1.3		% wt			0.9						
107	1.3-2.7		% wt			7.3						
108	2.7-4.5		% wt			7.4						
109	4.5-6.5		% wt			3.8						
110	6.5-9.7		% wt			8.1						
111	9.7-15		% wt			10.9						
112	>15		% wt			60.8						

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Feedstreams																
2																	
3																	
4	788C1																
5	Capacity burn																
6	Feedstream Number																
7	Feed Class																
8	Feed Class 2																
9	Feedstream Description																
10	Feed Rate																
11	Viscosity																
12	Heating Value																
13	Density																
14	Ash																
15	Chlorine																
16	Antimony																
17	Arsenic																
18	Barium																
19	Beryllium																
20	Cadmium																
21	Chromium																
22	Lead																
23	Mercury																
24	Nickel																
25	Selenium																
26	Silver																
27	Thallium																
28	Zinc																
29																	
30	Stack Gas Flowrate																
31	Oxygen																
32																	
33	Thermal Feedrate																
34	Estimated Firing Rate																
35																	
36	Feedrate MTEC Calculations																
37	Ash																
38	Chlorine																
39	Antimony																
40	Arsenic																
41	Barium																
42	Beryllium																
43	Cadmium																
44	Chromium																
45	Lead																
46	Mercury																
47	Nickel																
48	Selenium																
49	Silver																
50	Thallium																
51	Zinc																
52																	
53	SVM																
54	LVM																
55																	
56																	
57																	
58	788C2																
59	DRE burn																
60	Feedstream Number																

US EPA ARCHIVE DOCUMENT

	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
1																						
2																						
3																						
4																						
5																						
6	Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
7	F2										F3		F4		F3		F4		F3		F4	
8	Liq HW										NG		NG		NG		NG		F4		Spike	
9	Triclor-B Recycle		HW		HW		HW		HW		MF		MF		MF		Nat Gas		Spike		Spike	
10	13324										Nat Gas		Nat Gas		Nat Gas		2.1		1511		1511	
11	2																					
12	3296.7																					
13	1.59																					
14	1.9																					
15	10257.3																					
16	0.002																					
17	0.001																					
18	0.0011																					
19	0.0004																					
20	0.002																					
21	0.002																					
22	0.004																					
23	0.001																					
24	0.02																					
25	0.003																					
26	0.002																					
27	0.003																					
28	0.008																					
29																						
30	14519																					
31	7.3																					
32																						
33	43.9																					
34																						
35																						
36																						
37	35.8																					
38	193317326																					
39	37.7																					
40	18.8																					
41	20.7																					
42	7.5																					
43	37.7																					
44	46.3																					
45	84.2																					
46	18.8																					
47	388.8																					
48	56.5																					
49	37.7																					
50	56.5																					
51	168.9																					
52																						
53	121.9																					
54	72.6																					
55																						
56																						
57																						
58	Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
59	F2										F3		F3		F3		F3		F3		F3	
60																						

	AP	AO	AR	AS	AT	AU	AV	AW	AX	AY	AZ
1											
2											
3											
4											
5											
6			Cond Avg		R1		R2		R3		Cond Avg
7			F4		F5		F5		F5		F5
8			Spike		Total		Total		Total		Total
9			Spike		Total		Total		Total		Total
10			Spike		Spike						
11			1511		1511						
12											
13											
14			372		372						
15			225		225						
16											
17											
18											
19											
20											
21			0.7		0.7						
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37	6974.2		7000.5	0	6753.4	0	7378.0	0	7010.2	0	7047
38	4218268		4234201	0	249501409	0	268018317	0	255820147	0	257779958
39				100	48.8	100	51.3	100	48.7	100	50
40				100	27.1	100	29.6	100	28.1	100	28
41				0	28.0	0	29.8	0	28.5	0	29
42				100	10.8	100	11.8	100	11.2	100	11
43				100	48.8	100	51.3	100	48.7	100	50
44	13123.5		13173.1	0	12682.5	0	13881.3	0	13159.5	0	13241
45				75	72.2	79	75.0	75	75.0	77	109
46				100	27.1	100	29.6	100	28.1	100	28
47				18	307.0	8	710.3	18	318.7	13	445
48				100	72.2	100	78.9	100	75.0	100	75
49				100	48.8	100	51.3	100	48.7	100	50
50				100	72.2	100	78.9	100	75.0	100	75
51				7	177.0	6	187.4	6	178.1	7	181
52											
53				85	121.0	84	230.9	85	123.7	84	159
54	13123.5		13173.1	0	12720.4	0	13922.7	0	13198.9	0	13281
55											
56											
57											
58											
59											
60											

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
61	Feed Class																
62	Feed Class 2																
63	Feedstream Description																
64	Feed Rate	lb/hr		Allyl Crude PDC	5650	1	5205	5348	1	5401.0							
65	Viscosity	cps															
66	Heating Value	Btu/lb		Allyl Crude PDC	7413.3	7413.3	7413.3	7413.3	7413.3	7413.3							
67	Density	g/ml			1.14	1.14	1.14	1.14	1.14	1.14							
68	Ash	lb/hr	nd		0.02	0.02	0.02	0.02	0.02	0.02							
69	Chlorine	lb/hr	nd		3446.0	3123.0	3123.0	3155.0	3155.0	3241.3							
70	Antimony	lb/hr	nd		0.0007	0.0006	0.0006	0.0006	0.0006	0.0007							
71	Arsenic	lb/hr	nd		0.0005	0.0005	0.0005	0.0005	0.0005	0.0006							
72	Barium	lb/hr	nd		0.00043	0.00042	0.00042	0.00042	0.00042	0.00043							
73	Beryllium	lb/hr	nd		0.0002	0.0002	0.0002	0.0002	0.0002	0.0002							
74	Cadmium	lb/hr	nd		0.0007	0.0006	0.0006	0.0006	0.0006	0.0007							
75	Chromium	lb/hr	nd		0.0001	0.000088	0.000088	0.000088	0.000088	0.0001							
76	Lead	lb/hr	nd		0.001	0.0019	0.0019	0.001	0.001	0.001							
77	Mercury	lb/hr	nd		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005							
78	Nickel	lb/hr	nd		0.003	0.003	0.003	0.003	0.003	0.003							
79	Selenium	lb/hr	nd		0.001	0.001	0.001	0.001	0.001	0.001							
80	Silver	lb/hr	nd		0.0007	0.0006	0.0006	0.0006	0.0006	0.0007							
81	Thallium	lb/hr	nd		0.001	0.001	0.001	0.001	0.001	0.001							
82	Zinc	lb/hr	nd		0.0007	0.0006	0.0006	0.0006	0.0006	0.0007							
83	Stack Gas Flowrate	dscfm			16030	15972	15972	15789	15789	15930							
84	Oxygen	%			7.3	7.2	7.2	7.4	7.4	7.3							
85	Thermal Feedrate	MMBtu/hr			41.9	38.6	38.6	39.6	39.6	40.0							
86	Estimated Firing Rate	MMBtu/hr															
87																	
88																	
89																	
90	Feedrate MTEC Calculations																
91	Ash	mg/dscm	100		0.34	100	0.34	100	0.35	100							
92	Chlorine	ug/dscm			58736408	53037104	53037104	54998650	54998650	555994149							
93	Antimony	ug/dscm	100		11.9	100	10.2	100	10.5	100							
94	Arsenic	ug/dscm	100		8.5	100	84.9	100	8.7	100							
95	Barium	ug/dscm	100		7.3	7.1	7.1	7.7	7.7	7.4							
96	Beryllium	ug/dscm	100		3.4	100	3.4	100	3.5	100							
97	Cadmium	ug/dscm	100		11.9	100	10.2	100	10.5	100							
98	Chromium	ug/dscm	100		1.7	1.5	1.5	1.7	1.7	1.7							
99	Lead	ug/dscm	100		17.0	100	32.3	100	17.4	100							
100	Mercury	ug/dscm	100		8.5	100	8.5	100	8.7	100							
101	Nickel	ug/dscm	100		51.1	100	50.9	100	52.3	100							
102	Selenium	ug/dscm	100		17.0	100	17.0	100	17.4	100							
103	Silver	ug/dscm	100		11.9	100	10.2	100	10.5	100							
104	Thallium	ug/dscm	100		17.0	100	17.0	100	17.4	100							
105	Zinc	ug/dscm	100		11.9	100	10.2	100	10.5	100							
106																	
107	SYM	ug/dscm	100		29.0	100	42.5	100	27.9	100							
108	LVM	ug/dscm	88		13.6	98	89.8	88	13.9	89							
109																	
110	788C3																
111																	
112	Feedstream Number																
113	Feed Class																
114	Feed Class 2																
115	Feedstream Description																
116	Feed Rate	lb/hr		Allyl Crude PDC	6174.6	4133.4	4133.4	5283.6	5283.6	5197.3							
117	Heating Value	Btu/lb			7350	7470	7470	7330	7330	7383							
118	Density	g/ml			1.16	1.16	1.16	1.11	1.11	1.14							
119	Viscosity	cp			228	244	244	161	161	1.56							
120	Moisture	% wt															

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	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
61	NG																					
62	MF																					
63		Natural Gas																				
64		0.3																				
65																						
66																						
67																						
68																						
69			158																			
70																						
71																						
72																						
73																						
74																						
75																						
76																						
77																						
78																						
79																						
80																						
81																						
82																						
83																						
84																						
85																						
86																						
87		0.006																				
88																						
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107																						
108																						
109																						
110																						
111																						
112	F2																					
113	Liq HW																					
114																						
115	Triclor-B Recycle																					
116																						
117																						
118																						
119																						
120																						

	AP	AO	AR	AS	AT	AU	AV	AW	AX	AY	AZ
61											
62											
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119											
120											

R3 Cond Avg

F4

Total

Total

Total

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
121	Ash																
122	Chlorine	lb/hr	nd	0.02 nd	0.01 nd	3154.0	0.02	3154.0	0.02	3154.0	0.02	2.2	2.2	1.6	1.6	1.0	
123	Antimony	g/hr	nd	0.3 nd	0.2 nd	0.2 nd	0.3	0.3	0.3	0.3	0.3 nd	0.8	0.8	0.8	0.8	12775.3	0.9
124	Arsenic	g/hr	nd	0.3 nd	0.2 nd	0.15	0.2	0.2	0.2	0.2	0.3 nd	0.7	0.7	0.7	0.7	0.7	0.7
125	Barium	g/hr	nd	0.24	0.16	0.08	0.2	0.2	0.2	0.2	0.2	0.54	0.54	0.56	0.56	0.58	0.58
126	Beryllium	g/hr	nd	0.08 nd	0.05	0.02	0.07	0.07	0.07	0.07	0.07 nd	0.2	0.2	0.2	0.2	0.2	0.2
127	Cadmium	g/hr	nd	0.3 nd	0.2 nd	0.029	0.3	0.3	0.3	0.3	0.3 nd	0.8	0.8	0.8	0.8	0.8	0.8
128	Chromium	g/hr	nd	0.043	0.029	0.037	0.037	0.037	0.037	0.04	0.04	0.76	0.76	1	1	0.79	0.79
129	Lead	g/hr	nd	0.6 nd	0.4 nd	0.2	0.5	0.5	0.5	0.5	0.5 nd	1	1	1	1	1.5	1.5
130	Mercury	g/hr	nd	0.3 nd	0.2 nd	0.2	0.2	0.2	0.2	0.2	0.2 nd	0.7	0.7	0.7	0.7	0.7	0.7
131	Nickel	g/hr	nd	2 nd	1 nd	1	1	1	1	1	1	8.3	8.3	5.9	5.9	5.2	5.2
132	Selenium	g/hr	nd	0.6 nd	0.4 nd	0.2	0.5	0.5	0.5	0.5	0.5 nd	1	1	1	1	1	1
133	Silver	g/hr	nd	0.3 nd	0.2 nd	0.3	0.3	0.3	0.3	0.3	0.3 nd	0.8	0.8	0.8	0.8	0.9	0.9
134	Thallium	g/hr	nd	0.7 nd	0.5 nd	0.6	0.6	0.6	0.6	0.6	0.6 nd	2	2	2	2	2	2
135	Zinc	g/hr	nd	0.3 nd	0.2 nd	0.3	0.3	0.3	0.3	0.3	0.3	2.8	2.8	3.6	3.6	3.1	3.1
136	Stack Gas Flowrate	dscfm		15289	15460	14847	14847	14847	14847	15198.7	15198.7						
137	Oxygen	%		7.3	7.2	7.4	7.4	7.4	7.4	7.3	7.3						
139	Thermal Feedrate	MMBtu/hr		45.4	30.9	38.7	38.7	38.7	38.7	38.4	38.4	42.2	42.2	50.4	50.4	51.1	51.1
141	Estimated Firing Rate	MMBtu/hr															
142	Feedrate MTEC Calculations																
143	Ash	mg/dscm	100	0.36 100	0.18 100	0.37	0.37	0.37	0.37	0.15	0.15	38.58	38.58	27.44	27.44	17.97	17.97
144	Chlorine	ug/dscm	100	56364835	55337472	58469620	58469620	58469620	58469620	56723976	56723976	204822461	204822461	204822491	204822491	236832188	236832188
145	Antimony	ug/dscm	100	11.8 100	7.7 100	12.2	12.2	12.2	12.2	10.60 100	10.60 100	31.5 100	31.5 100	30.9 100	30.9 100	36.7	36.7
146	Arsenic	ug/dscm	100	11.8 100	7.7 100	8.2	8.2	8.2	8.2	9.23 100	9.23 100	27.6 100	27.6 100	27.1 100	27.1 100	28.6	28.6
147	Barium	ug/dscm	100	9.4	5.8	8.2	8.2	8.2	8.2	7.80	7.80	21.3	21.3	21.6	21.6	23.7	23.7
148	Beryllium	ug/dscm	100	3.1 100	2.3 100	2.9	2.9	2.9	2.9	2.78 100	2.78 100	7.9 100	7.9 100	7.7 100	7.7 100	8.2	8.2
149	Cadmium	ug/dscm	100	11.8 100	7.7 100	12.2	12.2	12.2	12.2	10.60 100	10.60 100	31.5 100	31.5 100	30.9 100	30.9 100	32.7	32.7
150	Chromium	ug/dscm	100	1.7	1.1	1.5	1.5	1.5	1.5	1.44	1.44	29.9	29.9	38.6	38.6	32.3	32.3
152	Lead	ug/dscm	100	23.6 100	15.5 100	20.4	20.4	20.4	20.4	19.83 100	19.83 100	39.4 100	39.4 100	38.6 100	38.6 100	61.2	61.2
153	Mercury	ug/dscm	100	11.8 100	7.7 100	8.2	8.2	8.2	8.2	9.23 100	9.23 100	27.6 100	27.6 100	27.1 100	27.1 100	28.6	28.6
154	Nickel	ug/dscm	100	78.7 100	38.6 100	40.8	40.8	40.8	40.8	52.74	52.74	328.0	328.0	228.0	228.0	212.3	212.3
155	Selenium	ug/dscm	100	23.6 100	15.5 100	20.4	20.4	20.4	20.4	19.83 100	19.83 100	39.4 100	39.4 100	38.6 100	38.6 100	40.8	40.8
156	Silver	ug/dscm	100	11.8 100	7.7 100	12.2	12.2	12.2	12.2	10.60 100	10.60 100	31.5 100	31.5 100	30.9 100	30.9 100	36.7	36.7
157	Thallium	ug/dscm	100	27.6 100	19.3 100	24.5	24.5	24.5	24.5	23.79 100	23.79 100	78.7 100	78.7 100	77.3 100	77.3 100	81.7	81.7
158	Zinc	ug/dscm	100	11.8 100	7.7 100	12.2	12.2	12.2	12.2	10.60 100	10.60 100	110.2 100	110.2 100	139.1 100	139.1 100	126.6	126.6
159	SVM	ug/dscm		35.4	23.2	32.7	32.7	32.7	32.7	30.43	30.43	70.9	70.9	69.6	69.6	93.9	93.9
160	LVM	ug/dscm		16.7	11.2	12.5	12.5	12.5	12.5	13.45	13.45	65.3	65.3	73.4	73.4	69.0	69.0
161																	

US EPA ARCHIVE DOCUMENT

	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	
121																							
122	1.6																						
123	11867.7																						
124	0.8																						
125	0.7																						
126	0.56																						
127	0.2																						
128	0.8																						
129	0.85																						
130	1.17																						
131	0.7																						
132	6.5																						
133	1																						
134	0.8																						
135	2																						
136	3.2																						
137																							
138																							
139																							
140	47.8		87.5		81.3		89.8		86.2		4.2		4.2		4.2					15976		15013	
141																					7.3		7.2
142																							
143																							
144	27.99	1	38.93		27.61		18.34	0.4	28.1											38.9	0	27.6	0
145	214135713	0	257117297	0	260159963	0	295301808	0	270859689											257117297	0	260159963	0
146	33.05	100	43.3	100	38.6	100	49.0	100	43.6											43.3	100	38.6	100
147	27.73	100	39.4	100	34.8	100	36.7	100	37.0											39.4	100	34.8	100
148	22.19	0	30.7	0	27.4	0	31.8	0	30.0											30.7	0	27.4	0
149	7.92	100	11.0	100	10.0	100	11.0	100	10.7											11.0	100	10.0	100
150	31.69	100	43.3	100	38.6	100	44.9	100	42.3											43.3	100	38.6	100
151	33.61	0	31.6	0	39.8	0	33.8	0	35.0											31.6	0	39.8	0
152	46.42	100	63.0	100	54.1	100	81.7	100	66.3											63.0	100	54.1	100
153	27.73	100	39.4	100	34.8	100	36.7	100	37.0											39.4	100	34.8	100
154	255.69	19	405.4	14	266.7	16	253.2	17	308.4											405.4	14	266.7	16
155	39.61	100	63.0	100	54.1	100	61.2	100	59.4											63.0	100	54.1	100
156	33.05	100	43.3	100	38.6	100	49.0	100	43.6											43.3	100	38.6	100
157	79.23	100	106.3	100	96.6	100	106.2	100	103.0											106.3	100	96.6	100
158	125.31	100	122.0	100	146.9	100	138.8	100	135.9											122.0	100	146.9	100
159																							
160	78.11	100	106.3	100	92.7	100	126.6	100	108.5											106.3	100	92.7	100
161	69.26	61	82.0	53	84.6	59	81.5	58	82.7											82.0	53	84.6	59

US EPA ARCHIVE DOCUMENT

	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
121											
122											
123											
124											
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127											
128											
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130											
131											
132											
133											
134											
135											
136											
137	14811		15267								
138	7.4		7.3								
139											
140	94.0		90.4								
141	63.9		66.4								
142											
143											
144	18.3	0	28.3								
145	295301808	0	270859689								
146	49.0	100	43.6								
147	36.7	100	37.0								
148	31.8	0	30.0								
149	11.0	100	10.7								
150	44.9	100	42.3								
151	33.8	0	35.0								
152	81.7	100	66.3								
153	36.7	100	37.0								
154	253.2	17	308.4								
155	61.2	100	59.4								
156	49.0	100	43.6								
157	106.2	100	103.0								
158	138.8	100	135.9								
159											
160	126.6	100	108.5								
161	81.5	58	82.7								

	A	B	C
1	Process Information		
2			
3	788C1	Capacity burn	Cond Avg
4			
5	Comb Temp	°F	2452.4
6	HCl Prod	lb/hr	11826
7	J-3 Vent Liq Flow Pressure	psi	13.1
8	S-30 Scrubber		
9	Effluent pH	pH	7.2
10	Effluent Flow	gpm	29.3
11	Recycle	gpm	94.9
12	L/G	gal/Macf	6.4
13			
14	788C2	DRE burn	Cond Avg
15			
16	Comb Temp	°F	2012.0
17	HCl Prod	lb/hr	2290.2
18	J-3 Vent Liq Flow Pressure	psi	13.6
19	S-30 Scrubber		
20	Effluent pH	pH	8.0
21	Effluent Flow	gpm	30.7
22	Recycle	gpm	95.0
23	L/G	gal/Macf	5.9
24			
25	788C3	Risk burn	Cond Avg
26			
27	Comb Temp	°F	2321.6
28	HCl Prod	lb/hr	13140
29	J-3 Vent Liq Flow Pressure	psi	16.1
30	S-30 Scrubber		
31	Effluent pH	pH	7.9
32	Effluent Flow	gpm	31.2
33	Recycle	gpm	94.8
34	L/G	gal/Macf	6.1

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:	Dow Chemical Company, Freeport TX															
4	Condition ID:	788C3															
5	Condition/Test Date:	Risk burn, max liq waste feed rate, normal comb temp, November 4-5, 1997															
6																	
7		I-TEF															
8		Wght Fact															
9																	
10		Detected in sample volume (pg)															
11		2,3,7,8-TCDD	1	nd	3.2	3.2	2	1.6	nd	2.9	2.9	1.5	nd	2	2.1	1	1.1
12		Total TCDD	0		62	0.0	62	0.0	73	0	73.0	0	0	74	0.0	74	0.0
13		1,2,3,7,8-PCDD	0.5		3.1	1.55	3	1.55	3.3	1.65	3.3	1.65	2	1.2	2	1.2	1.2
14		Total PCDD	0		53	0	53	0	56	0	56.0	0	0	64	0.0	64	0.0
15		1,2,3,4,7,8-HxCDD	0.1		4.2	0.42	4	0.42	nd	2.6	2.6	1.3	nd	1.9	0.19	1	0.10
16		1,2,3,6,7,8-HxCDD	0.1		8.6	0.86	9	0.86	3.6	3.6	3.6	3.6	3.6	2.8	0.3	3	0.3
17		1,2,3,7,8,9-HxCDD	0.1		5.1	0.51	5	0.51	2.7	2.7	2.7	2.7	2.7	2.2	0.2	2	0.2
18		Total HxCDD	0		46	0	46	0	46	0	46	0	0	30	0	30	0
19		1,2,3,4,6,7,8-HpCDD	0.01		38	0.38	38	0.38	14	14	14	14	14	11	0.11	11	0.11
20		Total HpCDD	0		54	0	54	0	26	0	26	0	0	19	0	19	0
21		OCDD	0.001		76	0.076	76	0.076	31	31	31	31	31	35	0.035	35	0.035
22		2,3,7,8-TCDF	0.1		140	14.00	140	14.00	140	14	140	14	14	110	11	110	11
23		Total TCDF	0		4700	0	4700	0	5200	0	5200	0	0	4300	0	4300	0
24		1,2,3,7,8-PCDF	0.05		260	13.00	260	13.00	230	230	230	230	230	200	10	200	10
25		2,3,4,7,8-PCDF	0.5		89	44.50	89	44.50	80	80	80	80	80	71	35.5	71	35.5
26		Total PCDF	0		2200	0.0	2200	0.0	2300	0	2300	0	0	2000	0	2000	0
27		1,2,3,4,7,8-HxCDF	0.1		170	17.00	170	17.00	140	140	140	140	140	110	11	110	11
28		1,2,3,6,7,8-HxCDF	0.1		56	5.60	56	5.60	51	51	51	51	51	40	4	40	4
29		2,3,4,6,7,8-HxCDF	0.1		19	1.90	19	1.90	16	16	16	16	16	12	1.2	12	1.2
30		1,2,3,7,8,9-HxCDF	0.1		23	2.30	23	2.30	20	20	20	20	20	16	1.6	16	1.6
31		Total HxCDF	0		710	0	710.0	0	620	0	620	0	0	540	0	540	0
32		1,2,3,4,6,7,8-HpCDF	0.01		110	1.1	110	1.1	74	74	74	74	74	61	0.61	61	0.61
33		1,2,3,4,7,8,9-HpCDF	0.01		28	0.28	28	0.28	13	13	13	13	13	9	0.09	9	0.09
34		Total HpCDF	0		200	0	200	0	120	0	120	0	0	95	0	95	0
35		OCDF	0.001		400	0.40	400	0.40	66	66	66	66	66	65	0.065	65	0.065
36																	
37		Gas sample volume (dscf)			165.31	165.31	165.31	165.31	167.02	167.02	167.02	167.02	167.02	154.89	154.89	154.89	154.89
38		O2 (%)*			7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
39																	
40		PCDD/PCDF (pg in sample)			107.08	8501.0	105.48	105.48	94.747	8538.0	93.167	93.167	93.167	79.20	7222.0	78.05	78.05
41		PCDD/PCDF (ng/dscm @ 7% O2)	3.0		0.023	1.857	0.023	3.3	0.02	1.846	0.02	0.02	2.9	0.018	1.684	0.018	0.018
42																	
43		* The percentage of O2 level is obtained from Trial burn (average of condition 1)															
44																	
45		TEQ Cond Avg															
46		Total Cond Avg															