	B	C
1	**Source Description**	
2		
3	Phase II ID No.	851
4	EPA ID No.	CAD076528678
5	Facility Name	The Dow Chemical Company
6	Facility Location	
7	City	Pittsburg
8	State	CA
9	Unit ID Name/No.	MS HAF
10	Other Sister Facilities	None
11	Number of Sister Facilities	0
12	Combustor Class	HCl Production Furnace
13	Combustor Type	
14	Combustor Characteristics	Manufacturing Services HAF
15	Capacity (MMBtu/hr)	5.5
16	Soot Blowing	None
17	APCS Detailed Acronym	Q/HClABS/WS
18	APCS General Class	WQ,LEWS
19	APCS Characteristics	Quench, acid absorber, caustic scrubber. Acid absorber includes two falling-film absorbers and a wetted packed bed column; dilute aqueous NaOH in caustic scrubber
20	Hazardous Wastes	Liq
21	Haz Waste Description	Chlorinated liquids and gas streams
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	0.678
26	Height (ft)	74.50
27	Gas Velocity (ft/sec)	
28	Gas Temperature (°F)	154
29		
30	Permitting Status	Tier I for all metals except As, Cd, and Cr+6 (Tier lll). Nickel spiked but not Tier III?
31	HWC Burn Status (Date if Terminated)	
32		
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	B	C
1	**Cond Description**	
2		
3	**851C1**	
4		
5	Report Name/Date	Trail Burn Report For The Dow Chemical Company Manufacturing Services Halogen Acid Furnace; Volume 1 of 5, January 2000
6	Report Prepar	Radian International
7	Testing Firm	Radian International
8	Testing Dates	November 1-3, 1999
9	Cond Dates	Nov-99
10	Cond Description	Trial burn, max comb chamber temp
11	Content	PM, HCl/Cl2, DRE, CO, PCDD/F
12		
13	**851C2**	
14		
15	Report Name/Date	Trail Burn Report For The Dow Chemical Company Manufacturing Services Halogen Acid Furnace; Volume 1 of 5, January 2000
16	Report Prepar	Radian International
17	Testing Firm	Radian International
18	Testing Dates	October 25-27, 1999
19	Cond Dates	Oct-99
20	Cond Description	Trial burn, min comb chamber temp
21	Content	DRE, CO, PCDD/F
22		
23	**851C3**	
24		
25	Report Name/Date	Trail Burn Report For The Dow Chemical Company Manufacturing Services Halogen Acid Furnace; Volume 1 of 5, January 2000
26	Report Prepar	Radian International
27	Testing Firm	Radian International
28	Testing Dates	October 19-21, 1999
29	Cond Dates	Oct-99
30	Cond Description	Risk burn, normal operating conditions
31	Content	PM, HCl/Cl2, metals, Cr+6, organics, PCDD/F

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1		**Stack Gas Emissions**													
2															
3			Comı	Units	7% O2										
4															
5															
6	1	**851C1**	**Trial Burn**				R1		R2		R3		Cond Avg		
7															
8		PM	E1	gr/dscf	y		0.011		0.010		0.012		0.011		
9		HC (RA)	E1	ppmv	y		0.1		0.5		0.5		0.4		
10		CO (MHRA)	E1	ppmv	y		25		34		28		29		
11		HCl		ppmv	n		22.1		26.4		37.6				
12		Cl2		ppmv	n		0.075		1.41		0.198				
13		Chromium (Hex)		lb/hr			0.00002		0.00001		0.00001				
14		Chromium		lb/hr			0.00010		0.00009		0.00022				
15		Arsenic		lb/hr			0.000002		0.000003	nd	0.000002				
16		Cadmium		lb/hr			0.00002		0.00002		0.00002				
17		Nickel		lb/hr			0.00166		0.00154		0.00190				
18															
19		Chromium (Hex)	E3	µg/dscm	y		3.2		2.6		1.4		2.4		
20		Chromium	E2	µg/dscm	y		20.4		19.7		43.1		27.7		
21		Arsenic	E2	µg/dscm	y		0.5		0.5	nd	0.4	27	0.5		
22		Cadmium	E2	µg/dscm	y		4.3		3.3		3.3		3.6		
23		Nickel	E2	µg/dscm	y		356.3		322.3		378.9		352.5		
24		LVM	E2	µg/dscm	y		20.9		20.2	1	43.5	0.6	21.4		No Be
25		SVM	E2	µg/dscm	y		4.3		3.3		3.3		3.6		No Pb
26															
27		HCl	E1	ppmv	y		18.3		21.5		30.4		23.4		
28		Cl2	E1	ppmv	y		0.1		1.1		0.2		0.5		
29		Total Chlorine	E1	ppmv	y		18.4		23.8		30.7		24.3		
30															
31		POHC DRE	MCB												
32		POHC Feedrate		lb/hr			2.88		2.84		2.88				
33		Emission Rate	E4	lb/hr		nd	5.65E-06	nd	5.78E-06	nd	5.47E-06				
34		DRE	E4	%		>	99.999	>	99.999	>	99.999				
35															
36		POHC DRE	TCE												
37		POHC Feedrate		lb/hr			2.8		2.79		2.82				
38		Emission Rate	E4	lb/hr		nd	1.34E-05	nd	1.63E-05	nd	1.91E-05				
39		DRE	E4	%		>	99.999	>	99.999	>	99.999				
40															
41		Sampling Train	PM, H	E1											
42		Stack Gas Flowrate		dscfm			1032		1040		1085		1052		
43		O2		%			4.1		3.8		3.7		3.9		
44		Moisture		%			4.8		4.7		4.3		4.6		
45		Temperature		°F			158		157		146		154		
46															
47		Sampling Train	Metal	E2											
48		Stack Gas Flowrate		dscfm			1043		1037		1050		1043		
49		O2		%			4.1		3.8		3.7		3.9		
50		Moisture		%			4.6		4.4		4.1		4.4		
51		Temperature		°F			159		153		147		153		
52															
53		Sampling Train	Cr +6	E3											
54		Stack Gas Flowrate		dscfm			1082		1077		1052		1070		
55		O2		%			4.1		3.8		3.7		3.9		
56		Moisture		%			4.1		4.6		4.2		4.3		
57		Temperature		°F			158		160		145		154		
58															
59		Sampling Train	PCDI	E4											
60		Stack Gas Flowrate		dscfm			1157		1068		1110		1112		
61		O2		%			4.1		3.8		3.7		4		
62		Moisture		%			4.1		3.9		3.6		4		
63		Temperature		°F			157		152		145		151		
64															
65															

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
66	2	**851C2**	**Trial Burn**				R1		R2		R3		Cond Avg		
67															
68		CO (MHRA)	E1	ppmv	y		9		9		9		9		
69		HC (RA)	E1	ppmv	y		0.1		0.1		0.1		0.1		
70															
71		POHC DRE	MCB												
72		POHC Feedrate		lb/hr			2.8		2.8		2.8				
73		Emission Rate	E1	lb/hr		nd	3.91E-06	nd	4.14E-06	nd	3.96E-06				
74		DRE	E1	%		>	99.999	>	99.999	>	99.999				
75															
76		POHC DRE	TCE												
77		POHC Feedrate		lb/hr			2.68		2.67		2.64				
78		Emission Rate	E1	lb/hr		nd	1.19E-05	nd	1.36E-05	nd	3.90E-05				
79		DRE	E1	%		>	99.999	>	99.999	>	99.999				
80															
81		Sampling Train	PCDI	E1											
82		Stack Gas Flowrate		dscfm			1064		1117		1086		1089		
83		O2		%			8.7		7.9		7.9		8.2		
84		Moisture		%			3.5		3.4		3.3		3.4		
85		Temperature		°F			152		149		149		150		
86															
87															
88	3	**851C3**					R1		R2		R3		Cond Avg		
89															
90		PM	E1	gr/dscf	y		0.0006		0.0002		0.0006		0.0004		
91		CO (MHRA)	E1	ppmv	y		9		9		31		16.3		
92		HC (RA)	E1	ppmv	y		0.1		0.1		0.1		0.1		
93		HCl		ppmv	n		10.4		14.2		19.6		14.7		
94		Cl2		ppmv	n		0.039		0.035		0.033		0.04		
95		Chromium (Hex)		lb/hr			0.000005		0.000002		0.000003		0.000003		
96		Chromium		lb/hr			0.000014		0.000014		0.000015		0.000014		
97		Arsenic		lb/hr			0.000001		0.000001		0.000003		0.000002		
98		Cadmium		lb/hr			0.000004		0.000005		0.000003		0.000004		
99		Nickel		lb/hr			0.000018		0.000016		0.000019		0.000017		
100															
101		Chromium (Hex)	E3	µg/dscm	y		1.4		0.5		0.6		0.9		
102		Chromium	E2	µg/dscm	y		3.8		3.5		3.6		3.6		
103		Arsenic	E2	µg/dscm	y		0.3		0.3		0.6		0.4		
104		Cadmium	E2	µg/dscm	y		1.0		1.2		0.8		1.0		
105		Nickel	E2	µg/dscm	y		4.7		3.8		4.6		4.4		
106		SVM	E2	µg/dscm	y		1.0		1.2		0.8		1.0		No Cd
107		LVM	E2	µg/dscm	y		4.1		3.8		4.2		4.0		No Be
108															
109		HCl	E1	ppmv	y		10.9		14.3		19.7		15.0		
110		Cl2	E1	ppmv	y		0.04		0.04		0.03		0.04		
111		Total Chlorine	E1	ppmv	y		10.9		14.4		19.8		15.1		
112															
113		Sampling Train	PM, H	E1											
114		Stack Gas Flowrate		dscfm			1063		1117		1095		1091.7		
115		O2		%			7.6		7.1		7.1		7.3		
116		Moisture		%			4.9		4.5		4.9		4.8		
117		Temperature		°F			165		162		162		163		
118															
119		Sampling Train	Metal	E2											
120		Stack Gas Flowrate		dscfm			1081		1097		1039		1072		
121		O2		%			7.6		7.1		7.1		7		
122		Moisture		%			4.7		4.4		5		5		
123		Temperature		°F			165		164		162		164		
124															
125		Sampling Train	Cr +6	E3											
126		Stack Gas Flowrate		dscfm			1061		1100		1098		1086		
127		O2		%			7.6		7.1		7.1		7.3		
128		Moisture		%			3.5		4		3.6		3.7		
129		Temperature		°F			147		155		159		154		
130															

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
131		Sampling Train	PCDI	E4											
132		Stack Gas Flowrate		dscfm			1097		1098		1051		1106		
133		O2		%			7.6		7.1		7.1		7.3		
134		Moisture		%			3.6		3.6		3.7		3.9		
135		Temperature		°F			148		150		153		151		

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	**Feedstreams**																						
2																							
3																							
4	**851C1**	**Trial Burn**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
5																							
6	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3
7	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Spike		Spike
8	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Spike		Spike
9	Feedstream Description				Liq Waste		Liq Waste		Liq Waste		Liq Waste		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Spike		Spike
10	Feed Rate		lb/hr		472		455		452		460												
11	Heating Value		Btu/lb								8232												
12	Heat Content		MMBtu/hr		4.2		4		4.1		4.1		1.4		1.4		1.4		1.4				
13	Ash		lb/hr	nd	0.0472	nd	0.0455	nd	0.0452		0.46										2.2328		2.2345
14	Chlorine		lb/hr		292.2		352.6		280.7		309										1125		1065
15	Arsenic		g/hr		0.636		0.735		0.806		0.729										0.18		0.08
16	Barium		g/hr		0.094		0.038		0.038		0.038												
17	Beryllium		g/hr		0.013		0.008		0.006		0.009												
18	Cadmium		g/hr	nd	0.020	nd	0.019	nd	0.020		0.020										0.06		0.06
19	Chromium		g/hr		0.043		0.033		0.054		0.044										3.5		3.5
20	Copper		g/hr	nd	0.025	nd	0.024	nd	0.024		0.024												
21	Lead		g/hr		0.446		0.421		0.484		0.451												
22	Manganese		g/hr		0.047		0.040		0.040		0.042												
23	Nickel		g/hr	nd	0.071	nd	0.069	nd	0.071		0.070										16.2		16.2
24	Selenium		g/hr		2.893		2.789		2.770		2.819												
25	Thallium		g/hr	nd	0.973	nd	0.938	nd	0.932		0.948												
26	Zinc		g/hr	nd	0.069	nd	0.066	nd	0.066		0.067												
27	Mercury		g/hr	nd	0.003		0.007		0.008		0.006												
28																							
29	Stack Gas Flowrate		dscfm		1032		1040		1085		1052.3												
30	Oxygen		%		4.1		3.8		3.7		3.9												
31																							
32	Thermal Feedrate		MMBtu/hr		4.2		4		4.1		4.1		1.4		1.4		1.4		1.4				
33	Estimated Firing Rate		MMBtu/hr																				
34																							
35	*Feedrate MTEC Calculations*																						
36	Ash		mg/dscm	100	10.1	100	9.5	100	9.0	100	9.6										479.2		467.6
37	Chlorine		ug/dscm		62706484		73790001		55975811		64157432.0										241488328		222799940
38	Arsenic		ug/dscm		301		339		354		331.4										85.4		37.6
39	Barium		ug/dscm		45		18		17		26.2												
40	Beryllium		ug/dscm		6		4		3		4.2												
41	Cadmium		ug/dscm	100	10	100	9	100	9	100	9.1										27		27
42	Chromium		ug/dscm		20		15		24		19.8										1632		1596
43	Cumene		ug/dscm	100	12	100	11	100	11	100	11.2												
44	Lead		ug/dscm		211		194		213		205.9												
45	Manganese		ug/dscm		22		19		17		19.4												
46	Nickel		ug/dscm	100	34	100	32	100	31	100	32.1										7672		7481
47	Selenium		ug/dscm		1368		1285		1217		1289.9												
48	Thallium		ug/dscm	100	460	100	432	100	409	100	433.8												
49	Zinc		ug/dscm	100	32	100	30	100	29	100	30.6												
50	Mercury		ug/dscm	100	1		3		3	16	2.5												
51	SVM		ug/dscm	4	220.2	4	203.2	4	221.6	4	215.0										27		27
52	LVM		ug/dscm	0	327.4	0	358.2	0	380.7	0	355.4										1718		1634
53																							
54																							
55	**851C2**	**Trial Burn**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
56																							
57	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3
58	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Total		Total

	B	Y	Z	AA	AB	AD	AE	AF	AG	AH	AI	AJ	AK
1	**Feedstreams**												
2													
3													
4	**851C1**		R3		Cond Avg		R1		R2		R3		Cond Avg
5													
6	Feedstream Number		F3		F3		F4		F4		F4		F4
7	Feed Class		Spike		Spike		Total		Total		Total		Total
8	Feed Class 2		Spike		Spike		Total		Total		Total		Total
9	Feedstream Description		Spike		Spike		Total		Total		Total		Total
10	Feed Rate												
11	Heating Value												
12	Heat Content												
13	Ash		2.2348		1.82		2.28		2.28		2.28		2.28
14	Chlorine		1137		1108		1417		1417		1417		1417
15	Arsenic		0.01		0.09		0.82		0.82		0.82		0.82
16	Barium												
17	Beryllium												
18	Cadmium		0.06		0.06		0.08		0.08		0.08		0.08
19	Chromium		3.4		3.5		3.50		3.50		3.50		3.50
20	Copper												
21	Lead												
22	Manganese												
23	Nickel		16.2		16.2		16.30		16.30		16.30		16.30
24	Selenium												
25	Thallium												
26	Zinc												
27	Mercury												
28													
29	Stack Gas Flowrate												
30	Oxygen												
31													
32	Thermal Feedrate						5.6		5.4		5.5		5.5
33	Estimated Firing Rate						5.5		5.7		6.0		5.7
34													
35	*Feedrate MTEC Calculations*												
36	Ash		445.7		377.9	2	489.3	2	477.1	2	454.7	2	473.7
37	Chlorine		226669876		230102537	0	304194811.2	0	296589941.0	0	282645686.8	0	294259968.5
38	Arsenic		4.6		40.3	0	386.2	0	376.6	0	358.9	0	371.7
39	Barium					0	44.6	0	17.5	0	16.6	0	26.2
40	Beryllium					0	6.1	0	3.8	0	2.8	0	4.2
41	Cadmium		25		26	26	36.4	25	35.5	26	33.8	26	35.2
42	Chromium		1512		1579	0	1652.7	0	1611.4	0	1535.6	0	1598.6
43	Cumene					100	11.9	100	11.1	100	10.5	100	11.2
44	Lead					0	210.7	0	194.2	0	212.7	0	205.9
45	Manganese					0	22.2	0	18.7	0	17.5	0	19.4
46	Nickel		7129		7422	0	7705.7	0	7513.0	0	7159.8	0	7453.8
47	Selenium					0	1367.6	0	1285.4	0	1216.9	0	1289.9
48	Thallium					100	459.9	100	432.3	100	409.2	100	433.8
49	Zinc					100	32.4	100	30.5	100	28.8	100	30.6
50	Mercury					100	1.2	0	3.1	0	3.3	16	2.5
51	SVM		25		26	4	247.1	4	229.7	4	246.5	4	241.1
52	LVM		1517		1619	0	2045.0	0	1991.8	0	1897.3	0.0	1974.5
53													
54													
55	**851C2**		R3		Cond Avg								
56													
57	Feedstream Number		F3		F3								
58	Feed Class		Total		Total								

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
59	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Total		Total
60	Feedstream Description				Liq Waste		Liq Waste		Liq Waste		Liq Waste		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Total		Total
61	Feed Rate		lb/hr		331		328		324		328												
62	Heating Value		Btu/lb		4228		4781		4514		4508												
63	Heat Content		MMBtu/hr		2		2		2		2.0		1.5		1.4		1.4		1.4				
64	Ash		lb/hr		0.02		0.02		0.02		0.02												
65	Chlorine		lb/hr		595		673		653		640												
66																							
67	Stack Gas Flowrate		dscfm		1064		1117		1086		1089												
68	Oxygen		%		8.7		7.9		7.9		8.2												
69																							
70	Thermal Feedrate		MMBtu/hr		1.4		1.6		1.5		1.5		1.5		1.4		1.4		1.4		2.9		3.0
71	Estimated Firing Rate		MMBtu/hr																		4.2		4.6
72																							
73	*Feedrate MTEC Calculations*																						
74	Ash		mg/dscm		5.7		5.1		5.3		5.4										5.7		5.1
75	Chlorine		ug/dscm		170183099		172161801		171813887		171954863										170183099		172161801
76																							
77																							
78	**851C3**	**Risk Burn**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
79																							
80	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3
81	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Total		Total
82	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Total		Total
83	Feedstream Description				Liq		Liq		Liq		Liq		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Total		Total
84	Feed Rate		lb/hr		297		302		313		302												
85	Heating Value		Btu/lb		5891		6070		6072		6011												
86	Heat Content		MMBtu/hr		1.8		1.8		1.9		1.82		1.6		1.5		1.6		1.6				
87	Ash		lb/hr	nd	0.0297	nd	0.0302	nd	0.0313		0.0302												
88	Chlorine		lb/hr		174.0		179.4		196.9		183.4												
89	Arsenic		g/hr		0.28		0.55		0.15		0.32												
90	Barium		g/hr		0.05		0.05		0.05		0.05												
91	Beryllium		g/hr		0.01		0.01		0.01		0.01												
92	Cadmium		g/hr	nd	0.01	nd	0.01	nd	0.02		0.01												
93	Chromium		g/hr		0.05		0.06		0.05		0.05												
94	Copper		g/hr		0.08		0.08		0.08		0.08												
95	Lead		g/hr		0.14		0.20		0.09		0.14												
96	Manganese		g/hr		0.10		0.10		0.10		0.10												
97	Nickel		g/hr	nd	0.02	nd	0.02	nd	0.02		0.02												
98	Selenium		g/hr		1.27		1.29		1.34		1.29												
99	Thallium		g/hr	nd	0.13	nd	0.13	nd	0.14		0.13												
100	Zinc		g/hr	nd	0.05	nd	0.05	nd	0.05		0.05												
101	Mercury		g/hr	nd	0.001	nd	0.001	nd	0.001		0.001												
102																							
103	Stack Gas Flowrate		dscfm		1063		1117		1095		1091.7												
104	Oxygen		%		7.6		7.1		7.1		7.3												
105																							
106	Thermal Feedrate		MMBtu/hr		1.7		1.8		1.9		1.8		1.6		1.6		1.6		1.6		3.3		3.4
107	Estimated Firing Rate		MMBtu/hr																		4.5		4.9
108																							
109	*Feedrate MTEC Calculations*																						
110	Ash		mg/dscm	100	7.8	100	7.3	100	7.7	100	7.6									100	7.8	100	7.3
111	Chlorine		ug/dscm		45736424		43248557		48418604		45801194.9									0	45736424.0	0	43248556.6
112	Arsenic		ug/dscm		160		290		82		177.4									0	160.0	0	289.8
113	Barium		ug/dscm		29		27		28		28.1									0	28.9	0	26.9
114	Beryllium		ug/dscm		5		4		4		4.2									0	4.8	0	4.2
115	Cadmium		ug/dscm	100	8	100	7	100	9	100	7.8									100	7.6	100	7.0

	B	Y	Z	AA	AB	AD	AE	AF	AG	AH	AI	AJ	AK
59	Feed Class 2		Total		Total								
60	Feedstream Description		Total		Total								
61	Feed Rate												
62	Heating Value												
63	Heat Content												
64	Ash												
65	Chlorine												
66													
67	Stack Gas Flowrate												
68	Oxygen												
69													
70	Thermal Feedrate		2.9		2.9								
71	Estimated Firing Rate		4.5		4.4								
72													
73	*Feedrate MTEC Calculations*												
74	Ash		5.3		5.4								
75	Chlorine		171813887		171954863								
76													
77													
78	**851C3**		R3		Cond Avg								
79													
80	Feedstream Number		F3		F3								
81	Feed Class		Total		Total								
82	Feed Class 2		Total		Total								
83	Feedstream Description		Total		Total								
84	Feed Rate												
85	Heating Value												
86	Heat Content												
87	Ash												
88	Chlorine												
89	Arsenic												
90	Barium												
91	Beryllium												
92	Cadmium												
93	Chromium												
94	Copper												
95	Lead												
96	Manganese												
97	Nickel												
98	Selenium												
99	Thallium												
100	Zinc												
101	Mercury												
102													
103	Stack Gas Flowrate												
104	Oxygen												
105													
106	Thermal Feedrate		3.5		3.4								
107	Estimated Firing Rate		4.8		4.8								
108													
109	*Feedrate MTEC Calculations*												
110	Ash	100	7.7	100	3.8								
111	Chlorine	0	48418604.3	0	45801194.9								
112	Arsenic	0	82.4	0	177.4								
113	Barium	0	28.5	0	28.1								
114	Beryllium	0	3.6	0	4.2								
115	Cadmium	100	8.9	100	7.8								

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
116	Chromium		ug/dscm		29		29		25		27.7									0	29.0	0	29.4
117	Cumene		ug/dscm		45		42		44		43.7									0	45.0	0	41.9
118	Lead		ug/dscm		84		107		47		79.2									0	83.5	0	107.0
119	Manganese		ug/dscm		58		53		54		55.1									0	57.9	0	53.1
120	Nickel		ug/dscm	100	12	100	11	100	11	100	11.0									100	11.6	100	10.6
121	Selenium		ug/dscm		735		686		725		715.4									0	735.2	0	685.9
122	Thallium		ug/dscm	100	76	100	71	100	75	100	74.4									100	76.4	100	71.3
123	Zinc		ug/dscm	100	27	100	25	100	26	100	25.9									100	26.6	100	24.8
124	Mercury		ug/dscm	100	0.5	100	0.4	100	0.6	100	0.5									100	0.5	100	0.4
125																							
126	SVM		ug/dscm	8	91.2	6	114.0	16	55.8	9	87.0									8	91.2	6	114.0
127	LVM		ug/dscm	0	193.8	0	323.4	0	110.7	0	209.3									0	193.8	0	323.4
128																							
129																							
130																							
131																							

	B	Y	Z	AA	AB	AD	AE	AF	AG	AH	AI	AJ	AK
116	Chromium	0	24.8	0	27.7								
117	Cumene	0	44.3	0	43.7								
118	Lead	0	47.0	0	79.2								
119	Manganese	0	54.2	0	55.1								
120	Nickel	100	10.8	100	11.0								
121	Selenium	0	725.1	0	715.4								
122	Thallium	100	75.4	100	74.4								
123	Zinc	100	26.2	100	25.9								
124	Mercury	100	0.6	100	0.5								
125													
126	SVM	16	55.8	9	87.0								
127	LVM	0	110.7	0	209.3								
128													
129													
130													
131													

	A	B	C
1	**Process Information**		
2			
3		Cond Avg	
4			
5	**851C1**	Trial burn	
6			
7	Combustion Temp	°F	2323
8	Anhydrous HCl Production Rate	lb/hr	1417
9	NaOH Scrubber		
10	Scrubber pH	pH	7.6
11	Scrubber L/G	gal/1000scf	33.2
12	Scrubber Blowdown	lb/hr	728
13			
14	**851C2**	Trial burn	
15			
16	Combustion Temp	°F	1808.6
17	Anhydrous HCl Production Rate	lb/hr	640
18	NaOH Scrubber		
19	Scrubber pH	pH	8.4
20	Scrubber L/G	gal/1000scf	51.5
21	Scrubber Blowdown	lb/hr	1513
22			
23	**851C3**	Risk burn	
24			
25	Combustion Temp	°F	1947
26	Anhydrous HCl Production Rate	lb/hr	610
27	NaOH Scrubber		
28	Scrubber pH	pH	8.4
29	Scrubber L/G	gal/1000scf	47.8

	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:		The Dow Chemical Company, CAD076528678															
4	Condition ID:		851C1															
5	Condition/Test Date:		Max comb chamber temperature November 1-3, 1999															
6																		
7			I-TEF			Run 1					Run 2					Run 3		
8			Wght Fact		Total	TEQ	Total	TEQ		Total	TEQ	Total	TEQ		Total	TEQ	Total	TEQ
9					(ng)	Full ND	1/2 ND	1/2 ND		(ng)	Full ND	1/2 ND	1/2 ND		(ng)	Full ND	1/2 ND	1/2 ND
10	Detected in sample volume (ng)																	
11		2,3,7,8-TCDD	1							0.022	0.0218	0.022	0.0218		0.020	0.0200	0.020	0.0200
12		TCDD Other	0							0.108	0	0.108	0		0.110	0	0.110	0
13		1,2,3,7,8-PCDD	0.5							0.034	0.0168	0.034	0.0168		0.028	0.0141	0.028	0.0141
14		PCDD Other	0							0.146	0.0000	0.146	0.0000		0.092	0	0.092	0
15		1,2,3,4,7,8-HxCDD	0.1							0.014	0.0014	0.014	0.0014		0.014	0.0014	0.014	0.0014
16		1,2,3,6,7,8-HxCDD	0.1							0.014	0.0014	0.014	0.0014		0.012	0.0012	0.012	0.0012
17		1,2,3,7,8,9-HxCDD	0.1							0.008	0.0008	0.008	0.0008		0.007	0.0007	0.007	0.0007
18		HxCDD Other	0							0.105	0	0.105	0		0.078	0	0.078	0
19		1,2,3,4,6,7,8-HpCDD	0.01							0.024	0.0002	0.024	0.0002		0.023	0.0002	0.023	0.0002
20		HpCDD Other	0							0.025	0	0.025	0		0.021	0	0.021	0
21		OCDD	0.001							0.046	0	0.046	0		0.042	0	0.042	0
22		2,3,7,8-TCDF	0.1							0.200	0.0200	0.200	0.0200		0.170	0.0170	0.170	0.0170
23		TCDF Other	0							7.302	0	7.302	0		6.436	0	6.436	0
24		1,2,3,7,8-PCDF	0.05							0.330	0.0165	0.330	0.0165		0.270	0.0135	0.270	0.0135
25		2,3,4,7,8-PCDF	0.5							0.300	0.1499	0.300	0.1499		0.250	0.1248	0.250	0.1248
26		PCDF Other	0							7.072	0.0000	7.072	0.0000		5.887	0	5.887	0
27		1,2,3,4,7,8-HxCDF	0.1							0.410	0.0410	0.410	0.0410		0.330	0.0330	0.330	0.0330
28		1,2,3,6,7,8-HxCDF	0.1							0.230	0.0230	0.230	0.0230		0.180	0.0180	0.180	0.0180
29		2,3,4,6,7,8-HxCDF	0.1							0.120	0.0120	0.120	0.0120		0.098	0.0098	0.098	0.0098
30		1,2,3,7,8,9-HxCDF	0.1							0.045	0.0045	0.045	0.0045		0.041	0.0041	0.041	0.0041
31		HxCDF Other	0							2.092	0	2.092	0		1.847	0	1.847	0
32		1,2,3,4,6,7,8-HpCDF	0.01							0.559	0.0056	0.559	0.0056		0.450	0.0045	0.450	0.0045
33		1,2,3,4,7,8,9-HpCDF	0.01							0.056	0.0006	0.056	0.0006		0.042	0.0004	0.042	0.0004
34		HpCDF Other	0							0.224	0.0000	0.224	0.0000		0.169	0	0.169	0
35		OCDF	0.001							0.370	0.0004	0.370	0.0004		0.280	0.0003	0.280	0.0003
36																		
37		Stack Gas Flowrate(dscfm)									1068		1068			1110.0		1110.0
38		Gas sample volume (dscf)									128.3	128.3	128.3			133.8	133.8	133.8
39		O2 (%)									3.8	3.8	3.8			3.7	3.7	3.7
40																		
41		PCDD/PCDF (ng in sample)									0.3157	19.9	0.3157			0.2632	32.2	0.2632
42		PCDD/PCDF (ng/dscm @ 7% O2)							0.0		0.0708	4.451	0.0708	0.0		0.0563	6.87	0.0563
43																		
44		TEQ Cond Avg	0.06															
45		Total Cond Avg	5.66															

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	**PCCD/PCDF**																	
2	N																	
3	Facility Name and ID:		The Dow Chemical Company, CAD076528678															
4	Condition ID:		851C2 Trial burn															
5	Condition/Test Date:		Min comb chamber temperature October 25-27, 1999															
6																		
7			I-TEF			Run 1					Run 2					Run 3		
8			Wght Fact		Total	TEQ	Total	TEQ		Total	TEQ	Total	TEQ		Total	TEQ	Total	TEQ
9					(ng)	1/2 ND	1/2 ND	1/2 ND		(ng)	1/2 ND	1/2 ND	1/2 ND		(ng)	1/2 ND	1/2 ND	1/2 ND
10	Detected in sample volume (ng)																	
11		2,3,7,8-TCDD	1		0.0157	0.0157	0.0157	0.0157		0.01	0.0138	0.014	0.0138		0.014	0.0138	0.014	0.0138
12		TCDD Other	0		0.0996	0	0.0996	0		0.08	0	0.083	0		0.070	0	0.070	0
13		1,2,3,7,8-PCDD	0.5		0.0221	0.0111	0.0221	0.0111		0.02	0.0092	0.018	0.0092		0.018	0.0092	0.018	0.0092
14		PCDD Other	0		0.1669	0	0.1669	0		0.12	0	0.122	0		0.121	0	0.121	0
15		1,2,3,4,7,8-HxCDD	0.1		0.0092	0.0009	0.0092	0.0009		0.01	0.0009	0.009	0.0009		0.008	0.0008	0.008	0.0008
16		1,2,3,6,7,8-HxCDD	0.1		0.0092	0.0009	0.0092	0.0009		0.01	0.0007	0.007	0.0007		0.007	0.0007	0.007	0.0007
17		1,2,3,7,8,9-HxCDD	0.1		0.0048	0.0005	0.0048	0.0005		0.00	0.0005	0.005	0.0005		0.004	0.0004	0.004	0.0004
18		HxCDD Other	0		0.0579	0	0.0579	0		0.06	0	0.064	0		0.060	0	0.060	0
19		1,2,3,4,6,7,8-HpCDD	0.01		0.0129	0.0001	0.0129	0.0001		0.01	0.0001	0.010	0.0001		0.010	0.0001	0.010	0.0001
20		HpCDD Other	0		0.012	0	0.0120	0		0.01	0	0.010	0		0	0.0000		
21		OCDD	0.001		0.0212	0	0.0212	0		0.020	0	0.020	0		0.017	0	0.017	0
22		2,3,7,8-TCDF	0.1		0.13	0.0130	0.1300	0.0130		0.12	0.0120	0.120	0.0120		0.120	0.012	0.120	0.012
23		TCDF Other	0		4.4721	0	4.4721	0		3.88	0	3.878	0		3.580	0	3.580	0
24		1,2,3,7,8-PCDF	0.05		0.2195	0.0110	0.2195	0.0110		0.20	0.0100	0.200	0.0100		0.190	0.0095	0.190	0.0095
25		2,3,4,7,8-PCDF	0.5		0.1798	0.0899	0.1798	0.0899		0.18	0.0899	0.180	0.0899		0.160	0.0801	0.160	0.0801
26		PCDF Other	0		4.5993	0	4.5993	0		4.32	0	4.325	0		4.049	0	4.049	0
27		1,2,3,4,7,8-HxCDF	0.1		0.2896	0.0290	0.2896	0.0290		0.24	0.0240	0.240	0.0240		0.230	0.0230	0.230	0.0230
28		1,2,3,6,7,8-HxCDF	0.1		0.1596	0.0160	0.1596	0.0160		0.14	0.0140	0.140	0.0140		0.130	0.0130	0.130	0.0130
29		2,3,4,6,7,8-HxCDF	0.1		0.0765	0.0077	0.0765	0.0077		0.06	0.0064	0.064	0.0064		0.062	0.0062	0.062	0.0062
30		1,2,3,7,8,9-HxCDF	0.1		0.0286	0.0029	0.0286	0.0029		0.02	0.0024	0.024	0.0024		0.025	0.0025	0.025	0.0025
31		HxCDF Other	0		1.447	0	1.4470	0		1.33	0.0	1.329	0.0		1.155	0	1.155	0
32		1,2,3,4,6,7,8-HpCDF	0.01		0.3698	0.0037	0.3698	0.0037		0.33	0.0033	0.330	0.0033		0.300	0.0030	0.300	0.0030
33		1,2,3,4,7,8,9-HpCDF	0.01		0.0286	0.0003	0.0286	0.0003		0.02	0.0002	0.024	0.0002		0.026	0.0003	0.026	0.0003
34		HpCDF Other	0		0.1319	0	0.1319	0		0.12	0	0.116	0		0.114	0.0000	0.114	0.0000
35		OCDF	0.001		0.1596	0.0002	0.1596	0.0002		0.15	0.0002	0.150	0.0002		0.150	0.0002	0.150	0.0002
36																		
37		Stack Gas Flowrate(dscfm)				1064		1064			1117		1117			1086		1086
38		Gas sample volume (dscf)				129.8	129.8	129.8			135.5	135.5	135.5			132.20	132.20	132.20
39		O2 (%)				8.7	8.7	8.7			7.9	7.9	7.9			7.90	7.90	7.90
40																		
41		PCDD/PCDF (ng in sample)				0.2027	12.7	0.2027			0.1876	11.5	0.1876			0.1747	10.6	0.1747
42		PCDD/PCDF (ng/dscm @ 7% O2)				0.0628	3.94	0.0628			0.0523	3.20	0.0523			0.050	3.03	0.050
43																		
44		TEQ Cond Avg	0.05															
45		Total Cond Avg	3.39															

	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:		The Dow Chemical Company, CAD076528678															
4	Condition ID:		851C3 Risk burn															
5	Condition/Test Date:		Normal conditions October 19-21, 1999															
6																		
7			I-TEF			Run 1					Run 2					Run 3		
8			Wght Fact		Total	TEQ	Total	TEQ		Total	TEQ	Total	TEQ		Total	TEQ	Total	TEQ
9					(ng)	1/2 ND	1/2 ND	1/2 ND		(ng)	1/2 ND	1/2 ND	1/2 ND		(ng)	1/2 ND	1/2 ND	1/2 ND
10	Detected in sample volume (ng)																	
11		2,3,7,8-TCDD	1		0.01	0.0144	0.0144	0.0144		0.020	0.0197	0.0197	0.0197		0.018	0.0181	0.0181	0.0181
12		TCDD Other	0		0.07	0	0.0687	0		0.067	0	0.0672	0		0.063	0	0.0634	0
13		1,2,3,7,8-PCDD	0.5		0.01	0.0064	0.0127	0.0064		0.024	0.0121	0.0242	0.0121		0.026	0.0131	0.0263	0.0131
14		PCDD Other	0		0.07	0	0.0747	0		0.126	0	0.1263	0		0.113	0	0.1133	0
15		1,2,3,4,7,8-HxCDD	0.1		0.01	0.0009	0.0093	0.0009		0.010	0.0010	0.0099	0.0010		0.009	0.0009	0.0091	0.0009
16		1,2,3,6,7,8-HxCDD	0.1		0.01	0.0008	0.0085	0.0008		0.012	0.0012	0.0116	0.0012		0.010	0.0010	0.0100	0.0010
17		1,2,3,7,8,9-HxCDD	0.1		0.01	0.0006	0.0062	0.0006		0.006	0.0006	0.0056	0.0006	nd	0.008	0.0008	0.0038	0.0004
18		HxCDD Other	0		0.04	0	0.0388	0		0.083	0	0.0830	0		0.073	0	0.0731	0
19		1,2,3,4,6,7,8-HpCDD	0.01		0.01	0.0001	0.0127	0.0001		0.014	0.0001	0.0143	0.0001		0.014	0.0001	0.0136	0.0001
20		HpCDD Other	0		0.02	0	0.0161	0		0.019	0	0.0188	0		0.019	0	0.0190	0
21		OCDD	0.001		0.06	0.0001	0.0628	0.0001		0.086	0.0001	0.0860	0.0001		0.052	0.0001	0.0517	0.0001
22		2,3,7,8-TCDF	0.1		0.08	0.0082	0.0823	0.0082		0.140	0.0140	0.1397	0.0140		0.130	0.0130	0.1296	0.0130
23		TCDF Other	0		2.92	0	2.9209	0		4.061	0	4.0614	0		3.568	0.0000	3.5682	0.0000
24		1,2,3,7,8-PCDF	0.05		0.13	0.0065	0.1298	0.0065		0.220	0.0110	0.2204	0.0110		0.220	0.0110	0.2202	0.0110
25		2,3,4,7,8-PCDF	0.5		0.09	0.0467	0.0933	0.0467		0.160	0.0802	0.1603	0.0802		0.170	0.0852	0.1704	0.0852
26		PCDF Other	0		2.78	0	2.7800	0		4.519	0.0000	4.5192	0.0000		4.712	0	4.7120	0
27		1,2,3,4,7,8-HxCDF	0.1		0.18	0.018	0.1798	0.018		0.280	0.0280	0.2804	0.0280		0.330	0.033	0.3299	0.033
28		1,2,3,6,7,8-HxCDF	0.1		0.10	0.010	0.1001	0.010		0.170	0.0170	0.1702	0.0170		0.200	0.020	0.2003	0.020
29		2,3,4,6,7,8-HxCDF	0.1		0.05	0.0049	0.0492	0.0049		0.071	0.0071	0.0708	0.0071		0.083	0.0083	0.0834	0.0083
30		1,2,3,7,8,9-HxCDF	0.1		0.02	0.0023	0.0229	0.0023		0.032	0.0032	0.0322	0.0032		0.033	0.0033	0.0326	0.0033
31		HxCDF Other	0		0.95	0	0.9459	0		1.444	0	1.4440	0		1.756	0	1.7556	0
32		1,2,3,4,6,7,8-HpCDF	0.01		0.25	0.0025	0.2503	0.0025		0.380	0.0038	0.3798	0.0038		0.420	0.0042	0.4196	0.0042
33		1,2,3,4,7,8,9-HpCDF	0.01	nd	0.01	0.0001	0.0059	0.0001		0.027	0.0003	0.0269	0.0003		0.032	0.0003	0.0317	0.0003
34		HpCDF Other	0		0.09	0	0.0882	0		0.104	0	0.1039	0		0.089	0	0.0888	0
35		OCDF	0.001		0.18	0.0002	0.1798	0.0002		0.200	0.0002	0.1998	0.0002		0.220	0.0002	0.2202	0.0002
36																		
37		Stack Gas Flowrate(dscfm)				1097		1097			1098.0		1098.0			1051		1051
38		Gas sample volume (dscf)				123.10	123.10	123.10			130.1	130.1	130.1			126	126	126
39		O2 (%)				7.60	7.60	7.60			7.10	7.10	7.10			7.1	7.1	7.1
40																		
41		PCDD/PCDF (ng in sample)				0.1228	8.2	0.1227			0.1995	12.3	0.1995			0.2126	12.4	0.2123
42		PCDD/PCDF (ng/dscm @ 7% O2)				0.0368	2.45	0.0368			0.0546	3.36	0.0546			0.0601	3.49	0.0600
43																		
44		TEQ Cond Avg	0.05															
45		Total Cond Avg	3.10															
46																		
47																		