

US EPA ARCHIVE DOCUMENT

	A	B	C
1		Source Description	
2			
3		Phase I ID No.	454
4		EPA ID No.	MDD003071875
5		Facility Name	FMC Corporation, Agriculture Products Group
6		Facility Location	
7		City	Baltimore
8		State	MD
9		Unit ID Name/No.	
10		Other Sister Facilities	
11		Number of Sister Facilities	0
12		Combustor Class	Onsite incinerator
13		Combustor Type	Liquid injection
14		Combustor Characteristics	Incinerator made by Universal Oil Products
15		Capacity (MMBtu/hr)	
16		Soot Blowing	
17		APCS Detailed Acronym	Q/S/WESP
18		APCS General Class	WQ, LEWS, WESP
19		APCS Characteristics	Rapid Quench, Packed Tower Scrubber, Wet ESP (Dresser Industries)
20		Hazardous Wastes	Liq
21		Haz Waste Description	Liquid organic waste, tar, wastewater, vent gas. Liquid Organics: Methallyl Chloride (MAC) heels, Methanol solvent, Sulfentrazone. Vent Gas: MAC, TMOA, Sulfentrazone
22		Supplemental Fuel	
23			
24		Stack Characteristics	
25		Diameter (ft)	4.0
26		Height (ft)	100.0
27		Gas Velocity (ft/sec)	9.9
28		Gas Temperature (°F)	113.3
29			
30		Permitting Status	
31		HWC Burn Status (Date if Terminated)	

	B	C
1	Condition Description	
2		
3	454C10	
4		
5	Report Name/Date	Baltimore Plant Hazardous Waste Trial Burn Report, Dec 27,2000
6	Report Preparation	FMC Corporation
7	Testing Firm	Roy F. Weston Inc.
8	Testing Dates	July 18-19, 2000
9	Cond Dates	Jul-00
10	Condition Descr	Trial burn, high temperature operation, spiking of ash and metals, (Metals spiked in wastewater)
11	Content	PM, HCl/Cl ₂ , CO, HC, NOx, POHC DREs, Metals, PCDD/F
12		
13	454C11	
14		
15	Report Name/Date	Baltimore Plant Hazardous Waste Trial Burn Report, Dec 27,2000
16	Report Preparation	FMC Corporation
17	Testing Firm	Roy F. Weston Inc.
18	Testing Dates	October 25-26, 2000
19	Cond Dates	Oct-00
20	Condition Descr	Trial burn, minimum furnace temperature
21	Content	PM, HCl/Cl ₂ , CO, HC, NOx, POHC DREs, Metals, PCDD/F
22		
23	454C1	
24		
25	Report Name/Date	FMC Hazardous Waste Incinerator Trial Burn Test Report, prepared for FMC Agricultural Chemical Group, Baltimore, Maryland, prepared by Scott Environmental Services, August 1986, SET 1619-03-0886
26	Report Preparation	Scott Environmental
27	Testing Firm	Scott Environmental
28	Cond Descr	?
29	Testing Dates	May 14-16, 1986
30	Cond Dates	May-86

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 1											
2												
3		Comments	Units	7% O2								
4												
5												
6	454C10	Trial Burn				R1		R2		R3		Cond Avg
7												
8	PM	E1	gr/dscf	y		0.0177		0.0081		0.0178		0.0145
9	CO (RA)	E1	ppmv	y		2.0		5.8		2.5		3.43
10	HC (RA)		ppmv			0.65		0.54		0.35		0.51
11	NOx		ppmv			79.3		59.5		109.1		
12	SO2		ppmv			0.9		1.4		0.7		
13	HCl		ppmv			5.46		6.3		7.15		
14	Cl2		ppmv			22.73		33.12		10.35		
15												
16	POHC DRE	Chlorobenzene										
17	POHC Feedrate		lb/hr			2.83		39.95		1.61		14.8
18	Emission Rate	E1	lb/hr			2.29E-04		2.80E-04		1.13E-04		
19	DRE	E1	%			99.9919		99.9993		99.993		
20												
21	POHC DRE	Toluene										
22	POHC Feedrate		lb/hr			64.81		1184.47		106.45		451.9
23	Emission Rate	E1	lb/hr			7.91E-04		1.88E-03		1.77E-03		
24	DRE	E1	%			99.9988		99.9998		99.9993		
25												
26	Antimony		lb/dscf			3.48E-10		2.96E-10		3.82E-10		
27	Arsenic		lb/dscf			4.62E-11		3.46E-11		4.34E-11		
28	Beryllium		lb/dscf	nd		3.14E-11	nd	3.21E-11	nd	2.95E-11		
29	Chromium		lb/dscf			2.50E-08		2.14E-08		2.54E-08		
30	Cadmium		lb/dscf			8.93E-12		4.40E-11		2.49E-11		
31	Lead		lb/dscf			9.48E-08		8.20E-08		7.95E-08		
32	Mercury		lb/dscf			1.44E-09		1.26E-09		1.29E-09		
33												
34	Sampling Train	PM, HCl/Cl2 E1										
35	Stack Gas Flowrate		dscfm			18258		18156		19259		18558
36	O2		%			10		10.5		10.5		10.3
37	Moisture		%			26.1		25.6		24.7		25.5
38	Temperature		°F			150		149		148		149.0
39												
40	Sampling Train	Metals E2										
41	Stack Gas Flowrate		dscfm			18853		18306		19568		18909
42	O2		%			10		10.5		10.5		10
43	Moisture		%			26.2		25.4		25.1		26
44	Temperature		°F			151		150		150		150
45												
46	HCl	E1	ppmv	y		6.9		8.4		9.5		8.3
47	Cl2	E1	ppmv	y		28.9		44.2		13.8		29.0
48	Total Chlorine	E1	ppmv	y		64.81		96.72		37.13		66.2
49	HC (RA)	E1	ppmv	y		0.8		0.7		0.5		0.7
50												
51	Antimony	E2	ug/dscm	y		7.11		6.33		8.17		7.2
52	Arsenic	E2	ug/dscm	y		0.94		0.74		0.93		0.9
53	Beryllium	E2	ug/dscm	y	nd	0.64	nd	0.69	nd	0.63		0.7
54	Chromium	E2	ug/dscm	y		510.44		457.74		543.30		503.8
55	Cadmium	E2	ug/dscm	y		0.18		0.94		0.53		0.6
56	Lead	E2	ug/dscm	y		1935.59		1753.97		1700.49		1796.7
57	Mercury	E2	ug/dscm	y		29.40		26.95		27.59		28.0
58	SVM	E2	ug/dscm	y		1935.8		1754.9		1701.0		1797.2
59	LVM	E2	ug/dscm	y		512.0		459.2		544.9		505.4
60												
61												
62	454C11	Trial Burn				R1		R2		R3		Cond Avg
63												
64	PM	E1	gr/dscf	y		0.0437		0.0397		0.0533		0.0456
65	CO (RA)	E1	ppmv	y		0.2		4.1		4.7		3.00
66	HC (RA)		ppmv			0.29		0.75		0.58		
67	NOx		ppmv			78.3		74.5		66.4		
68	SO2		ppmv			0.1		0.2		0.1		
69	HCl		ppmv			7.88		7.22		7.94		
70	Cl2		ppmv			5.02		4.91		9.37		
71												

	B	C	D	E	F	G	H	I	J	K	L	M
72	POHC DRE	Chlorobenzene										
73	POHC Feedrate		lb/hr			14.21		19.29		21.34		
74	Emission Rate	E1	lb/hr			1.69E-05		1.75E-05		1.80E-05		
75	DRE	E1	%			99.99987		99.99991		99.99992		
76												
77	POHC DRE	Toluene										
78	POHC Feedrate		lb/hr			863.34		838.96		865.19		
79	Emission Rate	E1	lb/hr			3.18E-04		7.09E-04		3.12E-04		
80	DRE	E1	%			99.99996		99.99992		99.99996		
81												
82	Antimony		lb/dscf		nd	1.61E-10		4.66E-11		5.64E-11		
83	Arsenic		lb/dscf		nd	5.37E-11		1.40E-11		1.03E-11		
84	Beryllium		lb/dscf			2.69E-12		2.19E-12	nd	1.33E-11		
85	Chromium		lb/dscf			8.54E-10		7.57E-10		1.05E-09		
86	Cadmium		lb/dscf			7.71E-11		3.52E-11		5.90E-11		
87	Lead		lb/dscf			1.64E-10		4.11E-11		9.49E-11		
88	Mercury		lb/dscf		nd	1.51E-10	nd	1.45E-10	nd	1.28E-10		
89												
90	Sampling Train	PM, HCl/Cl2	E1									
91	Stack Gas Flowrate		dscfm			20781		22049		21654		21495
92	O2		%			13.9		13.9		13.8		13.9
93	Moisture		%			15.2		14.8		14.6		14.9
94	Temperature		°F			130		127		125		127.3
95												
96	Sampling Train	Metals	E2									
97	Stack Gas Flowrate		dscfm			20866		20971		21588		21142
98	O2		%			13.9		14		13.6		13.8
99	Moisture		%			16.2		14.9		14.8		15.3
100	Temperature		°F			133		131		129		131
101												
102	HCl	E1	ppmv	y		15.5		14.2		15.4		15.1
103	Cl2	E1	ppmv	y		9.9		9.7		18.2		12.6
104	Total Chlorine	E1	ppmv	y		35.34		33.60		51.88		40.3
105	HC (RA)	E1	ppmv	y		0.4		1.0		0.8		0.7
106												
107	Antimony	E2	ug/dscm	y	nd	5.093		1.495		1.712		2.767
108	Arsenic	E2	ug/dscm	y	nd	1.699		0.449		0.313		0.820
109	Beryllium	E2	ug/dscm	y		0.085		0.070	nd	0.404		0.186
110	Chromium	E2	ug/dscm	y		27.015		24.288		31.868		27.724
111	Cadmium	E2	ug/dscm	y		2.439		1.129		1.791		1.786
112	Lead	E2	ug/dscm	y		5.188		1.319		2.880		3.129
113	Mercury	E2	ug/dscm	y	nd	4.777	nd	4.652	nd	3.885	100	4.438
114	SVM	E2	ug/dscm	y		7.627		2.448		4.671		4.915
115	LVM	E2	ug/dscm	y		28.798		24.808		32.584		28.730

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 2											
2												
3												
4	454C1					R1	R2	R3	Cond Avg			
5												
6	PM	E1	gr/dscf	y		0.0175	0.0151	0.0203	0.0176			
7	CO (RA)	E1	ppmv	y		19.0	20.2	17.4	18.9			
8	HCl	E1	ppmv	y		49.7	58.7	44.4	50.9			
9	Total Chlorine	E1	ppmv	y		49.7	58.7	44.4	50.9			
10												
11	Sampling Train	Halog E1										
12	Stack Gas Flowrate		dscfm			22164.0	20960.0	17883.0				
13	O2		%			14.6	14.5	14.8				
14	Moisture		%			9.6	9.5	9.9				
15	Temperature		°F			112.0	114.0	114.0				
16												
17	Carbon Tetrachloride	DRE	%			99.998	99.999	99.998				
18	Monochlorobenzene	DRE	%			99.995	99.998	99.997				

	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	Feedstream 1																											
2																												
3																												
4	454C10	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					Sludge HW	Sludge HW	Sludge HW	Sludge HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW													
8	Feed Class 2																											
9	Feedstream Description					Tar	Tar	Tar	Tar	Liq Org	Liq Org	Liq Org	Liq Org	Mac Heels	Mac Heels													
10	Feed Rate, Mean	lb/hr				1801	2022	2732		928	1244	1249		1821	1668													
11	Heating Value	Btu/lb				14310	14390	14870		17810	18180	13750		11210	10790													
12	Density	lb/gal				9.781	10.1	9.368		6.782	6.53	6.818		8.076	8.412													
13																												
14	Ash	%				0.24	0.29	0.33		0.01	nd	0.01	0.02	0.01	nd	0.01	nd											
15	Chlorine	%				0.07	0.21	0.07		2.18	2.15	1.68		43.5	29.6													
16																												
17	Antimony	mg/kg				0.552	0.667	0.828		nd	0.50	nd	0.50	nd	0.50		nd	0.50	nd	0.50	nd							
18	Arsenic	mg/kg	nd			0.500	nd	0.500	nd	0.500	nd	0.50	nd	0.50	nd	0.50		nd	0.50	nd	0.50	nd						
19	Beryllium	mg/kg	nd			0.505	nd	0.050	nd	0.050	nd	0.05	nd	0.05	nd	0.05		nd	0.05	nd	0.05	nd						
20	Cadmium	mg/kg	nd			0.500	nd	0.500	nd	0.500	nd	0.50	nd	0.50	nd	0.50		nd	0.50	nd	0.50	nd						
21	Chromium	mg/kg				0.913	2.400	0.853		0.50	nd	0.50	3.50	0.70	nd	0.50												
22	Lead	mg/kg	nd			0.500	nd	0.500	nd	0.500	nd	0.50	nd	0.50	nd	0.50		nd	0.90	nd	0.50	nd						
23	Mercury	mg/kg	nd			0.040	nd	0.040	nd	0.040		0.016	0.013	0.005		nd	0.002	0.008										
24																												
25	Stack Gas Flowrate	dscfm				18258	18156	19259		18258	18156	19259		18258	18156													
26	Oxygen	%				10	10.5	10.5		10	10.5	10.5		10	10.5													
27																												
28	Thermal Feedrate	MMBtu/hr				25.8	29.1	40.6		16.5	22.6	17.2		20.4	18.0													
29	Estimated Firing Rate	MMBtu/hr																										
30																												
31	<i>Feedrate MTEC Calculations</i>																											
32	Ash	mg/dscm				80.6	115.1	166.9	120.9	1.7	2.4	4.6	2.9	3.4	3.3													
33	Chlorine	ug/dscm				23497.0	83375.3	35399.9	47424.0	377055.1	525164.8	388414.0	430211.3	14763846.4	9694479.3													
34	Antimony	ug/dscm				18.5	26.5	41.9	29.0	100	8.6	100	12.2	100	11.6	100	10.8	100	17.0	100	16.4	100						
35	Arsenic	ug/dscm	100			16.8	100	19.9	100	25.3	100	20.6	100	8.6	100	12.2	100	11.6	100	10.8	100	17.0	100	16.4	100			
36	Beryllium	ug/dscm	100			17.0	100	2.0	100	2.5	100	7.2	100	0.9	100	1.2	100	1.2	100	1.1	100	1.7	100	1.6	100			
37	Cadmium	ug/dscm	100			16.8	100	19.9	100	25.3	100	20.6	100	8.6	100	12.2	100	11.6	100	10.8	100	17.0	100	16.4	100			
38	Chromium	ug/dscm				30.6	95.3	43.1	56.4	8.6	100	12.2	80.9	12	33.9	23.8	100	16.4										
39	Lead	ug/dscm	100			16.8	100	19.9	100	25.3	100	20.6	10.4	100	12.2	100	11.6	70	11.4		30.5	16.4	100					
40	Mercury	ug/dscm	100			1.3	100	1.6	100	2.0	100	1.7	0.3		0.3	0.1	0	0.2	100	0.1	0.3							
41	SVM	ug/dscm	100			33.6	100	39.7	100	50.6	100	41.3	45.5	19.0	100	24.4	100	23.1	84	22.2	36	47.5	50.0	32.8	100			
42	LVM	ug/dscm	52			64.4	19	117.1	39	71.0	33	84.2	52.4	18.2	100	25.6	13.6	93.6	35	45.8	44	42.4	100	34.4	49.8			
43																												
44																												
45																												
46	454C11	Trial burn								R1	R2	R3	Cond Avg	R1	R2													
47																												
48	Feedstream Number																											
49	Feed Class									F1	F1	F1	F1	F2	F2													
50	Feed Class 2																											
51	Feedstream Description									Liq Org	Liq Org	Liq Org	Liq Org	Mac Heels	Mac Heels													
52	Feed Rate, Mean	lb/hr								1079	1074	1104		2658	2677													
53	Heating Value	Btu/lb								17030	16700	16840		10110	10700													
54	Density	lb/gal								7.035	7.144	7.261		8.471	8.487													
55																												
56	Ash	%								0.01	nd	0.01	0.01	nd	0.01	nd	0.01	nd										
57	Chlorine	%								1.93	2.56	2.42		40.5	37.1													
58																												
59	Antimony	mg/kg	nd							nd	0.005	nd	0.005	0.010		nd	0.005	nd	0.005	nd								
60	Arsenic	mg/kg	nd							nd	0.005	nd	0.005	nd	0.005		nd	0.005	nd	0.005	nd							

	B	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV
1	Feedstream 1																						
2																							
3																							
4	454C10	R3	Cond Avg		R1	R2	R3	Cond Avg	R1	R2	R3	R4	Cond Avg										
5																							
6	Feedstream Number	F3	F3	F4	F4	F4	F4	F5															
7	Feed Class	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Spike															
8	Feed Class 2																						Spike
9	Feedstream Description	Mac Heels	Mac Heels	Wastewater	Wastewater	Wastewater	Wastewater	HW	HW	HW	HW	HW	Spike										
10	Feed Rate, Mean	1702		2480	2517	1617																	
11	Heating Value	10940	nd	50	50	50																	
12	Density	8.252		8.218	8.264	8.293																	
13																							
14	Ash	0.02		0.11	0.08	0.24																	
15	Chlorine	39.9		0.05	0.06	0.06																	
16																							
17	Antimony	0.50		0.12	0.12	0.12																	
18	Arsenic	0.50	nd	0.01	0.01	0.01																	
19	Beryllium	0.05	nd	0.001	0.00	0.00																	
20	Cadmium	0.50	nd	0.002	0.00	0.00																	
21	Chromium	0.56		111	105	111																	
22	Lead	0.50		152	147	153																	
23	Mercury	0.009		2.1	0.25	1.19																	
24																							
25	Stack Gas Flowrate	19259		18258	18156	19259																	
26	Oxygen	10.5		10	10.5	10.5																	
27																							
28	Thermal Feedrate	18.6		0.1	0.1	0.1																	
29	Estimated Firing Rate																						
30																							
31	<i>Feedrate MTEC Calculati</i>																						
32	Ash	6.3	4.3	50.8	39.5	71.8	54.1	136.5	160.4	249.6	182.2	54.1											
33	Chlorine	12570588.8	12342971.5	23111.2	29653.2	17959.1	23574.5	15187509.6	10332672.5	13012361.8	12844181.3												
34	Antimony	15.8 100	16.4	5.5	5.9	3.6	5.0 52	49.6 47	61.0 38	72.8 44	61.1	52											
35	Arsenic	15.8 100	16.4 100	0.2 100	0.2 100	0.1 100	0.2 100	42.6 100	48.7 100	52.7 100	48.0	100											
36	Beryllium	1.6 100	1.6 100	0.05 100	0.05 100	0.03 100	0.0 100	19.6 100	4.9 100	5.3 100	9.9	100											
37	Cadmium	15.8 100	16.4 100	0.1 100	0.1 100	0.1 100	0.1 100	42.5 100	48.5 100	52.7 100	47.9	100											
38	Chromium	17.5 28	19.2	5130.7	5189.3	3322.4	4547.5 0	5193.7 0.5	5313.2 0	3464.0 0.2	4657.0	4547.5 0											
39	Lead	15.8 25	20.9	7025.8	7265.0	4579.6	6290.1 0.2	7083.5 0.4	7313.5 1.1	4632.2 0.5	6343.0	6290.1 0.2											
40	Mercury	0.3 11	0.2	97.1	12.3	35.6	48.3 1.4	98.8 11	14.5 5.3	38.0 3.3	50.4	48.3 1.4											
41	SVM	31.5 58	37.3	7025.9	7265.1	4579.6	6290.2 0.8	7126.0 1.1	7362.0 2.2	4684.8 1.3	6390.9	6290.1 0.8											
42	LVM	34.8 63	37.2	5130.8	5189.5	3322.5	4547.6 1.2	5255.8 1.5	5366.6 1.6	3521.9 1.4	4714.8	4547.5 1.2											
43																							
44																							
45																							
46	454C11	R3	Cond Avg		R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg											
47																							
48	Feedstream Number	F2	F2	F3	F3	F3	F3																
49	Feed Class	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW																
50	Feed Class 2																						
51	Feedstream Description	Mac Heels	Mac Heels	Wastewater	Wastewater	Wastewater	Wastewater	HW	HW	HW	HW												
52	Feed Rate, Mean	2774		4031	4176	4214																	
53	Heating Value	10700		70 <	50 <	50																	
54	Density	8.537		8.362	8.396	8.312																	
55																							
56	Ash	0.01		0.02	0.01	0.01																	
57	Chlorine	37.5		0.1	0.04	0.03																	
58																							
59	Antimony	0.005	nd	0.005	0.005	0.005																	
60	Arsenic	0.005	nd	0.001	0.005	0.005																	

	B	AW	AX	AY	AZ	BA	BB	BC
1	Feedstream 1							
2								
3								
4	454C10	R1		R2		R3		Cond Avg
5								
6	Feedstream Number	F6		F6		F6		F6
7	Feed Class	Total		Total		Total		Total
8	Feed Class 2	Total		Total		Total		Total
9	Feedstream Description	Total		Total		Total		Total
10	Feed Rate, Mean	7030		7451		7300		7260
11	Heating Value							
12	Density							
13								
14	Ash							
15	Chlorine							
16								
17	Antimony							
18	Arsenic							
19	Beryllium							
20	Cadmium							
21	Chromium							
22	Lead							
23	Mercury							
24								
25	Stack Gas Flowrate	18258		18156		19259		18557.7
26	Oxygen	10		10.5		10.5		10.3
27								
28	Thermal Feedrate	62.8		69.8		76.5		69.7
29	Estimated Firing Rate	63.8		60.5		64.2		62.8
30								
31	<i>Feedrate MTEC Calculati</i>							
32	Ash	136.5		160.4		249.6		182.2
33	Chlorine	15187509.6		10332672.5		13012361.8		12844181.3
34	Antimony	36.8	47	46.7	38	59.1	44	47.5
35	Arsenic	21.3	100	24.3	100	26.4	100	24.0
36	Beryllium	9.8	100	2.4	100	2.6	100	5.0
37	Cadmium	21.2	100	24.3	100	26.3	100	23.9
38	Chromium	5193.7	0.5	5298.9	0	3464.0	0.2	4652.2
39	Lead	7075.1	0.4	7297.4	1.1	4605.9	0.5	6326.1
40	Mercury	98.0	11	13.7	5.3	37.0	3.3	49.6
41	SVM	7126.0	1.1	7362.0	2.2	4684.8	1.3	6390.9
42	LVM	5255.8	1.5	5366.6	1.6	3521.9	1.4	4714.8
43								
44								
45								
46	454C11	R1		R2		R3		Cond Avg
47								
48	Feedstream Number	F4		F4		F4		F4
49	Feed Class	Total		Total		Total		Total
50	Feed Class 2	Total		Total		Total		Total
51	Feedstream Description	Total		Total		Total		Total
52	Feed Rate, Mean	7768		7927		8092		7929
53	Heating Value							
54	Density							
55								
56	Ash							
57	Chlorine							
58								
59	Antimony							
60	Arsenic							

	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	Beryllium		mg/kg		nd								nd	0.001	nd	0.001	nd	0.001			nd	0.001	nd	0.001	nd	
62	Cadmium		mg/kg											0.005	0.005	0.005		0.006			nd	0.002	nd	0.002	nd	
63	Chromium		mg/kg											0.034	0.315	0.148						0.041		0.005		
64	Lead		mg/kg		nd								nd	0.005	nd	0.005	nd	0.005			nd	0.005	nd	0.005	nd	
65	Mercury		mg/kg											0.011	nd	0.003	nd	0.003			nd	0.003	nd	0.012	nd	
66																										
67	Stack Gas Flowrate		dscfm											20866.0	22049.0	21654.0						20866.0		22049.0		
68	Oxygen		%											13.9	13.9	13.8						13.9		13.9		
69																										
70	Thermal Feedrate		MMBtu/hr			0.0		0.0		0.0				18.4	17.9	18.6						26.9		28.6		
71	Estimated Firing Rate		MMBtu/hr																							
72																										
73	<i>Feedrate MTEC Calculations</i>																									
74	Ash		mg/dscm											2.7	100	2.6		2.7	39		2.2	100	6.7	100	6.4	100
75	Chlorine		ug/dscm											526171.6	657420.4	641445.9	0	608346.0		27199357.8		23747682.7				
76	Antimony		ug/dscm										100	0.14	100	0.13		0.27	67		0.13	100	0.34	100	0.32	100
77	Arsenic		ug/dscm										100	0.14	100	0.13	100	0.13	200		0.07	100	0.34	100	0.32	100
78	Beryllium		ug/dscm										100	0.03	100	0.03	100	0.03	200		0.01	100	0.07	100	0.06	100
79	Cadmium		ug/dscm											0.14		0.13		0.16	0		0.1	100	0.13	100	0.13	100
80	Chromium		ug/dscm											0.93		8.09		3.92	0		4.3		2.75		0.32	
81	Lead		ug/dscm										100	0.14	100	0.13	100	0.13	200		0.07	100	0.34	100	0.32	100
82	Mercury		ug/dscm											0.30	100	0.08	100	0.08	41		0.13	100	0.20	100	0.77	100
83	SVM		ug/dscm										50	0.3	50	0.3	45	0.3	48		0.3	100	0.5	100	0.4	100
84	LVM		ug/dscm										15	1.1	1.9	8.2	3.9	4.1	3.6		4.5	13	3.2	55	0.7	23.1

	B	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV
61	Beryllium	0.001			nd	0.001	nd	0.001	nd	0.001													
62	Cadmium	0.002			nd	0.002	nd	0.002	nd	0.002													
63	Chromium	0.020				0.003	nd	0.002	nd	0.002													
64	Lead	0.005				0.008		0.006		0.006													
65	Mercury	0.012				0.003		0.004		0.005													
66																							
67	Stack Gas Flowrate	21654.0				20866.0		22049.0		21654.0													
68	Oxygen	13.8				13.9		13.9		13.8													
69																							
70	Thermal Feedrate	29.7				0.3		0.2		0.2													
71	Estimated Firing Rate																						
72																							
73	<i>Feedrate MTEC Calculati</i>																						
74	Ash	6.7	100	6.6		20.4		10.0	100	10.1	25	13.5	23	29.8	47	19.0	86	19.4	48	22.7			23
75	Chlorine	24975448.6		25307496.4		101850.1		39941.0		30352.3	0	57381.1	0	27827379.5	0	24445044.2	0	25647246.8	0	25973223.5			0
76	Antimony	0.33	100	0.3	100	0.51	100	0.50	100	0.51	100	0.5	100	1.0	100	0.9	76	1.1	91	1.0			100
77	Arsenic	0.33	100	0.3	100	0.10	100	0.50	100	0.51	100	0.4	100	0.6	100	0.9	100	1.0	100	0.8			100
78	Beryllium	0.07	100	0.1	100	0.10	100	0.10	100	0.10	100	0.1	100	0.2	100	0.2	100	0.2	100	0.2			100
79	Cadmium	0.13	100	0.1	100	0.20	100	0.20	100	0.20	100	0.2	71	0.5	72	0.5	68	0.5	70	0.5			71
80	Chromium	1.33		1.5		0.31	100	0.20	100	0.20	57	0.2	0	4.0	2.3	8.6	3.7	5.5	2.2	6.0			0
81	Lead	0.33	100	0.3		0.81		0.60		0.61	0	0.7	37	1.3	43	1.0	43	1.1	41	1.1			37
82	Mercury	0.80	100	0.6		0.31		0.40		0.51	0	0.4	25	0.8	68	1.2	63	1.4	56	1.1			25
83	SVM	0.5	100	0.5		0.9	25	0.8	25	0.8	16	0.8	37	1.7	52	1.5	51	1.6	46	1.6			37
84	LVM	1.7	21	1.9		0.3	100	0.8	100	0.8	84	0.6	12	4.6	14	9.7	21	6.6	16	7.0			12

	B	AW	AX	AY	AZ	BA	BB	BC
61	Beryllium							
62	Cadmium							
63	Chromium							
64	Lead							
65	Mercury							
66								
67	Stack Gas Flowrate	20866.0		22049.0		21654.0		21523.0
68	Oxygen	13.9		13.9		13.8		13.9
69								
70	Thermal Feedrate	45.5		46.8		48.5		46.9
71	Estimated Firing Rate	47.0		49.7		49.5		48.7
72								
73	<i>Feedrate MTEC Calculati</i>							
74	Ash	29.8	47	19.0	86	19.4	48	22.7
75	Chlorine	27827379.5	0	24445044.2	0	25647246.8	0	25,973,223
76	Antimony	1.0	100	0.9	76	1.1	91	1.01
77	Arsenic	0.6	100	0.9	100	1.0	100	0.83
78	Beryllium	0.2	100	0.2	100	0.2	100	0.19
79	Cadmium	0.5	72	0.5	68	0.5	70	0.48
80	Chromium	4.0	2.3	8.6	3.7	5.5	2.2	6.02
81	Lead	1.3	43	1.0	43	1.1	41	1.14
82	Mercury	0.8	68	1.2	63	1.4	56	1.15
83	SVM	1.7	52	1.5	51	1.6	46	1.58
84	LVM	4.6	14	9.7	21	6.6	16	6.97

	B	AB	AC	AD	AE	AF	AG	AH	AI	AJ
1	Feedstream 2									
2										
3										
4	454C1	R3		R1		R2		R3		Cond Avg
5										
6	Feedstream Number			F4		F4		F4		F4
7	Feed Class			Total		Total		Total		Total
8	Feed Class 2	HW		Total		Total		Total		Total
9	Feedstream Description			Total		Total		Total		Total
10	Feedrate									
11	Heating value									
12	Thermal Feedrate			42.8		39.2		37.9		40.0
13	Estimated Firing Rate			45.03		43.25		35.20		41.2
14	Ash									
15	Chlorine									
16	Arsenic									
17	Barium									
18	Beryllium									
19	Cadmium									
20	Chromium									
21	Fluorine									
22	Lead									
23	Mercury									
24	Selenium									
25	Silver									
26	Chlorine									
27										
28	Gas flowrate			22164		20960		17883		20335.7
29	Oxygen			14.6		14.5		14.8		14.6
30										
31	Feedrate MTECs									
32	Ash	330.7		183.0		286.5		330.7		267
33	Chlorine	661878		495923		700924		661878		619575
34	Arsenic	13.6	100	3.3	7.98	76.1	16	13.6	13	31
35	Barium	473.7	100	587.1	100	356.9	100	473.7	100	473
36	Beryllium	6.9	100	3.3	100	3.8	39	6.9	70	5
37	Cadmium	4.8	100	3.3	100	3.8	100	4.8	100	4
38	Chromium	241.0	16	101.3	39	58.0	8.6	241.0	15	133
39	Fluorine	129160.8		112223.2		96135.9		129160.8		112507
40	Lead	149.5	100	115.6	100	81.9	28	149.5	69	116
41	Mercury	0.7	100	0.4	69.4	0.6	63	0.7	75	1
42	Selenium	180.4	0.1	84.1	0.08	146.2	0.1	180.4	0.1	137
43	Silver	24.0	55	17.6	100	19.8	100	24.0	87	20
44	SVM	154.3	100	118.9	62.7	85.7	30	154.3	61	120
45	LVM	261.5	18	108.0	22.5	137.9	8.7	261.5	14	169

	B	C	D	E
1	Process Information			
2				
3	454C10 Trial burn			Cond Avg
4				
5	Combustion Chamber Temp (min)	°C		1430
6	Combustion Chamber Pressure	in. w.c.	<	-0.92
7	Rapid Quench Make-up Water Flow Rate	gpm		129
8	Rapid Quench Process Water Flow Rate	gpm		319
9	Scrubber Liquid Flow Rate	gpm		515
10	Scrubber Liquid pH			5.3
11	WESP Recirc Flow Rate	gpm		155
12	WESP Make-up Water Flow Rate	gpm		11
13	WESP Voltage	kV		19.4
14				
15				
16				
17	454C11 Trial burn			
18				
19	Combustion Chamber Temp (min)	°C		1078
20	Combustion Chamber Pressure	in. w.c.	<	-0.89
21	Rapid Quench Make-up Water Flow Rate	gpm		149
22	Rapid Quench Process Water Flow Rate	gpm		379
23	Scrubber Liquid Flow Rate	gpm		497
24	Scrubber Liquid pH			4.9
25	WESP Recirc Flow Rate	gpm		163
26	WESP Make-up Water Flow Rate	gpm		6
27	WESP Voltage	kV		14.5

	C	D	E	F	G
1	Process Information 2				
2					
3	454C1		R1	R2	R3
4					
5	Combustion Temperature	F	1868	1940	1976
6	WS Pressure Drop	in H2O	4.5	4.5	4.5

	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:		FMC Corporation: Baltimore Plant Hazardous Waste Incinerator															
4	Condition ID:		454C10															
5	Condition/Test Date:		July 18-19, 2000															
6																		
7																		
8	I-TEF		Run 1				Run 2				Run 3							
9	Wght Fact		Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ
10	Detected in sample volume (pg)		Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND
11	2,3,7,8-TCDD	1	8.5	8.5	8.5	8.5	5.9	5.9	5.9	5.9	6.6	6.6	6.6	6.6				
12	1,2,3,7,8-PCDD	0.5	14.0	7.0	14.0	7.0	12	6.00	12.00	6.00	8.4	4.2	8.4	4.2				
13	1,2,3,4,7,8-HxCDD	0.1	6.9	0.7	6.9	0.7	5.2	0.52	5.20	0.52	6.5	0.7	6.5	0.7				
14	1,2,3,6,7,8-HxCDD	0.1	5.7	0.6	5.7	0.6	6.6	0.66	6.60	0.66	4.9	0.5	4.9	0.5				
15	1,2,3,7,8,9-HxCDD	0.1	5.5	0.6	5.5	0.6	3.5	0.35	3.50	0.35	4.8	0.5	4.8	0.5				
16	1,2,3,4,6,7,8-HpCDD	0.01	18.0	0.2	18.0	0.2	24	0.24	24.00	0.24	16.0	0.2	16.0	0.2				
17	OCDD	0.001	44.0	0.0	44.0	0.0	87	0.09	87	0.09	130.0	0.1	130.0	0.1				
18	2,3,7,8-TCDF	0.1	23.0	2.3	23.0	2.3	22	2.20	22	2.20	40.0	4.0	40.0	4.0				
19	1,2,3,7,8-PCDF	0.05	18.0	0.9	18.0	0.9	21	1.05	21	1.05	45.0	2.3	45.0	2.3				
20	2,3,4,7,8-PCDF	0.5	38.0	19.0	38.0	19.0	59	29.50	59	29.50	110.0	55.0	110.0	55.0				
21	1,2,3,4,7,8-HxCDF	0.1	69.0	6.9	69.0	6.9	100	10.00	100	10.00	180.0	18.0	180.0	18.0				
22	1,2,3,6,7,8-HxCDF	0.1	29.0	2.9	29.0	2.9	41	4.10	41	4.10	62.0	6.2	62.0	6.2				
23	2,3,4,6,7,8-HxCDF	0.1	14.0	1.4	14.0	1.4	33	3.30	33	3.30	49.0	4.9	49.0	4.9				
24	1,2,3,7,8,9-HxCDF	0.1	3.0	0.3	3.0	0.3	6.7	0.67	7	0.67	5.9	0.6	5.9	0.6				
25	1,2,3,4,6,7,8-HpCDF	0.01	65.0	0.7	65.0	0.7	130	1.30	130	1.30	130.0	1.3	130.0	1.3				
26	1,2,3,4,7,8,9-HpCDF	0.01	15.0	0.2	15.0	0.2	33	0.33	33	0.33	24.0	0.2	24.0	0.2				
27	OCDF	0.001	41.0	0.0	41.0	0.0	410	0.41	410	0.41	51.0	0.1	51.0	0.1				
28	Total TCDD	0	230.0	0.00	230.0	0.00	110	0.00	110	0.00	170	0	170	0				
29	Total PCDD	0	180.0	0.00	180.0	0.00	130	0.00	130	0.00	120	0	120	0				
30	Total HxCDD	0	120.0	0.0	120.0	0.0	76	0.00	76	0.00	75	0	75	0				
31	Total HpCDD	0	35	0	35	0	40	0.00	40	0.00	29	0	29	0				
32	Total TCDF	0	1200	0	1200	0	1400	0.00	1400	0.00	4800	0	4800	0				
33	Total PCDF	0	570	0	570	0	760	0.00	760	0.00	1700	0	1700	0				
34	Total HxCDF	0	340	0	340	0	520	0.00	520	0.00	890	0	890	0				
35	Total HpCDF	0	120	0	120	0	250	0.00	250	0.00	250	0	250	0				
36																		
37	Gas sample volume (dscf)			107.21	107.21	107.21		109.57	109.57	109.57		114.05	114.05	114.05				
38	O2 (%)			10.00	10.00	10.00		10.5	10.5	10.5		10.50	10.50	10.50				
39																		
40	PCDD/PCDF (ng in sample)			0.052	2.9	0.052		0.067	3.8	0.067		0.105	8.2	0.105				
41	PCDD/PCDF (ng/dscm @ 7% O2)		0.0	0.022	1.21	0.022	0.0	0.029	1.63	0.029	0.0	0.043	3.39	0.043				
42																		
43	TEQ Cond Avg		0.031															
44	Total Cond Avg		2.08															

	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:		FMC Corporation: Baltimore Plant Hazardous Waste Incinerator																
4	Condition ID:		454C11																
5	Condition/Test Date:		Oct 25-26, 2000																
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	Total	TEQ	Total	TEQ	
9			Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND	
10	Detected in sample volume (pg)																		
11	2,3,7,8-TCDD	1	14.0	14.0	14.0	14.0	nd	7.9	7.9	4.0	4.0	6.8	6.8	6.8	6.8				
12	1,2,3,7,8-PCDD	0.5	14.0	7.0	14.0	7.0		20	10.00	20.00	10.00	14.0	7.0	14.0	7.0				
13	1,2,3,4,7,8-HxCDD	0.1	nd	4.3	0.4	2.2	0.2	17	1.70	17.00	1.70	13.0	1.3	13.0	1.3				
14	1,2,3,6,7,8-HxCDD	0.1		10.0	1.0	10.0	1.0	23	2.30	23.00	2.30	18.0	1.8	18.0	1.8				
15	1,2,3,7,8,9-HxCDD	0.1		5.1	0.5	5.1	0.5	20	2.00	20.00	2.00	21.0	2.1	21.0	2.1				
16	1,2,3,4,6,7,8-HpCDD	0.01		85.0	0.9	85.0	0.9	260	2.60	260.00	2.60	140.0	1.4	140.0	1.4				
17	OCDD	0.001		190.0	0.2	190.0	0.2	700	0.70	700	0.70	330.0	0.3	330.0	0.3				
18	2,3,7,8-TCDF	0.1		12.0	1.2	12.0	1.2	11	1.10	11	1.10	10.0	1.0	10.0	1.0				
19	1,2,3,7,8-PCDF	0.05		6.3	0.3	6.3	0.3	7.7	0.39	8	0.39	6.8	0.3	6.8	0.3				
20	2,3,4,7,8-PCDF	0.5		15.0	7.5	15.0	7.5	17	8.50	17	8.50	16.0	8.0	16.0	8.0				
21	1,2,3,4,7,8-HxCDF	0.1		22.0	2.2	22.0	2.2	26	2.60	26	2.60	31.0	3.1	31.0	3.1				
22	1,2,3,6,7,8-HxCDF	0.1		9.0	0.9	9.0	0.9	10	1.00	10	1.00	12.0	1.2	12.0	1.2				
23	2,3,4,6,7,8-HxCDF	0.1		6.2	0.6	6.2	0.6	8	0.80	8	0.80	5.7	0.6	5.7	0.6				
24	1,2,3,7,8,9-HxCDF	0.1	nd	2.8	0.3	1.4	0.1	nd	2.7	0.27	1	0.14	nd	2.6	0.3	1.3	0.1		
25	1,2,3,4,6,7,8-HpCDF	0.01		24.0	0.2	24.0	0.2	27	0.27	27	0.27	36.0	0.4	36.0	0.4				
26	1,2,3,4,7,8,9-HpCDF	0.01	nd	4.7	0.0	2.4	0.0	nd	3.7	0.04	2	0.02	7.4	0.1	7.4	0.1			
27	OCDF	0.001		16.0	0.0	16.0	0.0	34	0.03	34	0.03	39.0	0.0	39.0	0.0				
28	Total TCDD	0		430.0	0.00	430.0	0.00	290	0.00	290	0.00	250	0	250	0				
29	Total PCDD	0		220.0	0.00	220.0	0.00	330	0.00	330	0.00	250	0	250	0				
30	Total HxCDD	0		160.0	0.0	160.0	0.0	390	0.00	390	0.00	250	0	250	0				
31	Total HpCDD	0		180	0	180	0	600	0.00	600	0.00	330	0	330	0				
32	Total TCDF	0		530	0	530	0	540	0.00	540	0.00	640	0	640	0				
33	Total PCDF	0		260	0	260	0	270	0.00	270	0.00	280	0	280	0				
34	Total HxCDF	0		150	0	150	0	200	0.00	200	0.00	190	0	190	0				
35	Total HpCDF	0		43	0	43	0	57	0.00	57	0.00	73	0	73	0				
36																			
37	Gas sample volume (dscf)			122.45	122.45	122.45		117.71	117.71	117.71		123.18	123.18	123.18					
38	O2 (%)			13.90	13.90	13.90		14.0	14.0	14.0		13.60	13.60	13.60					
39																			
40	PCDD/PCDF (ng in sample)			0.037	2.2	0.037		0.042	3.4	0.038		0.036	2.6	0.036					
41	PCDD/PCDF (ng/dscm @ 7% O2)		2.0	0.021	1.24	0.021	19.4	0.025	2.05	0.023	0.7	0.019	1.43	0.019					
42																			
43	TEQ Cond Avg		0.021																
44	Total Cond Avg		1.57																