

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	774
4	EPA ID No.	TXD058275769
5	Facility Name	Equistar Chemicals, LP - Channelview Complex
6	Facility Location	
7	City	Channelview
8	State	TX
9	Unit ID Name/No.	Boiler No. 3
10	Other Sister Facilities	Boiler No.1,2,4
11	Number of Sister Facilities	3
12	Combustor Class	Liquid-fired boiler
13	Combustor Type	Liquid-fired
14	Combustor Characteristics	Watertube boiler. 230 MMBtu/hr watertube boiler
15	Capacity (MMBtu/hr)	230
16	Soot Blowing	Yes, 13 minute duration
17	APCS Detailed Acronym	None
18	APCS General Class	
19	APCS Characteristics	NA
20	Hazardous Wastes	Liq
21	Haz Waste Description	T-303 bottoms, IPOH
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	6.5
26	Height (ft)	63.0
27	Gas Velocity (ft/sec)	52.9
28	Gas Temperature (°F)	441
29		
30	Permitting Status	Tier IA for metals and chlorine
	HWC Burn Status (Date if	
31	Terminated)	

	B	C
1	Cond Description	
2		
3	774C1	
4		
5	Report Name/Date	Certification of Compliance Forms, November 1998
6	Report Prepare	Waste Min Inc.
7	Testing Firm	Waste Min Inc.
8	Testing Dates	September 22, 1998
9	Cond Dates	Sep-98
10	Condition Descr	CoC; max feeds for T-303 bottoms and IPOH
11	Content	PM, Cl2, CO emissions; metals and chlorine in feedstreams
12		
13	774C2	
14		
15	Report Name/Date	Certification of Compliance Forms, November 1998
16	Report Prepare	Waste Min Inc.
17	Testing Firm	Waste Min Inc.
18	Testing Dates	September 23, 1998
19	Cond Dates	Sep-98
20	Condition Descr	CoC; min combustion temperature
21	Content	CO

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions											
2												
3		Comments	Units	7% O2								
4										Sootblow		
5												
6	774C1					R1	R2	R3				Cond Avg
7												
8	PM	E1	gr/dscf	y		0.0248	0.0228	0.0375				0.0284
9	CO (RA)	E1	ppmv	y		6	4	3				4
10	CO (MHRA)	E1	ppmv	y		7	5	3				5.0
11	Cl2		g/hr			213	310	266				263.0
12												
13	Sampling Train	PM	E1									
14	Stack Gas Flowrate		dscfm			51467.0	51467.0	51467.0				51467.0
15	O2		%			7.0	7.0	7.0				7.0
16	Moisture		%									15.6
17	Temperature		°F									441.0
18												
19	Cl2	E1	ppmv	y		0.81	1.18	1.01				1.00
20	Total Chlorine	E1	ppmv	y		1.62	2.36	2.03				2.01
21												
22	774C2					R1	R2	R3				Cond Avg
23												
24	CO (RA)		ppmv	y		15	16	20				17.0
25	CO (MHRA)		ppmv	y		37	17	23				25.7

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Feedstreams																				
2																					
3																					
4	774C1				R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1				
5	Feedstream Number				F1	F1	F1	F1	F2	F2	F2	F1	F2	F2	F2	F2	F2				
6	Feed Class				Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW				
7	Feed Class 2																				
8	Feedstream Description				T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms				
9	Feed Rate				633704	740937	688865	687835	2017948	2265290	2265290	687835	2017948	2265290	2265290	64.4	2182843				
10	Thermal Feedrate				17.16	24	23.518	21.6	55.6	64.4	64.4	21.6	55.6	64.4	64.4	61.5	2182843				
11	Heating Value							14250				14250				12725					72.7
12	Density							0.72				0.72				0.81					
13	Ash				222	593	344	386	404	453	566	386	404	453	566	474.3					
14	Chlorine				3	72	62	45.7	188	211	179	45.7	188	211	179	192.7					
15	Antimony				1.9	2.22	2.07	2.06	6.05	6.8	6.8	2.06	6.05	6.8	6.8	6.55					
16	Arsenic				0.32	0.37	0.34	0.34	1.01	1.13	1.13	0.34	1.01	1.13	1.13	1.09					
17	Barium				0.16	0.19	0.17	0.17	0.5	0.57	0.57	0.17	0.5	0.57	0.57	0.55					
18	Beryllium				0.16	0.19	0.17	0.17	0.5	0.57	0.57	0.17	0.5	0.57	0.57	0.55					
19	Cadmium				0.16	0.19	0.17	0.17	0.5	0.57	0.57	0.17	0.5	0.57	0.57	0.55					
20	Chromium				0.32	0.37	0.34	0.34	1.01	1.13	1.13	0.34	1.01	1.13	1.13	1.09					
21	Lead				0.32	0.37	0.34	0.34	1.01	1.13	1.13	0.34	1.01	1.13	1.13	1.09					
22	Mercury				0.17	0.21	0.09	0.16	0.25	0.28	0.28	0.16	0.25	0.28	0.28	0.27					
23	Silver				0.16	0.19	0.17	0.17	0.5	0.57	0.57	0.17	0.5	0.57	0.57	0.55					
24	Thallium				0.32	0.37	0.34	0.34	1.01	1.13	1.13	0.34	1.01	1.13	1.13	1.09					
25																					
26	Stack Gas Flowrate				51467	51467	51467	51467	51467	51467	51467	51467	51467	51467	51467	51467					
27	Oxygen				7	7	7	7	7	7	7	7	7	7	7	7					
28																					
29																					
30																					
31	Estimated Firing Rate																				
32																					
33	<i>Feedrate MTEC Calculations</i>																				
34	Ash				2.5	6.8	3.9	4.4	4.6	5.2	6.5	4.4	4.6	5.2	6.5	5.4					7.2
35	Chlorine				34.3	823.9	709.5	522.6	2151.3	2414.4	2048.3	522.6	2151.3	2414.4	2048.3	2204.7					2185.6
36	Antimony				21.7	25.4	23.7	23.6	69.2	77.8	77.8	23.6	69.2	77.8	77.8	75.0					91.0
37	Arsenic				3.7	4.2	3.9	3.9	11.6	12.9	12.9	3.9	11.6	12.9	12.9	12.5					15.2
38	Barium				1.8	2.2	1.9	2.0	5.7	6.5	6.5	2.0	5.7	6.5	6.5	6.3					7.6
39	Beryllium				1.8	2.2	1.9	2.0	5.7	6.5	6.5	2.0	5.7	6.5	6.5	6.3					7.6
40	Cadmium				1.8	2.2	1.9	2.0	5.7	6.5	6.5	2.0	5.7	6.5	6.5	6.3					7.6
41	Chromium				3.7	4.2	3.9	3.9	11.6	12.9	12.9	3.9	11.6	12.9	12.9	12.5					15.2
42	Lead				3.7	4.2	3.9	3.9	11.6	12.9	12.9	3.9	11.6	12.9	12.9	12.5					15.2
43	Mercury				1.9	2.4	2.4	1.8	2.9	3.2	3.2	1.8	2.9	3.2	3.2	3.1					4.8
44	Silver				1.8	2.2	1.9	1.9	5.7	6.5	6.5	1.9	5.7	6.5	6.5	6.3					7.6
45	Thallium				3.7	4.2	3.9	3.9	11.6	12.9	12.9	3.9	11.6	12.9	12.9	12.5					15.2
46																					
47	SVM				5.5	6.4	5.8	5.9	17.3	19.5	19.5	5.9	17.3	19.5	19.5	18.7					22.8
48	LVM				9.2	10.6	9.7	9.8	28.8	32.4	32.4	9.8	28.8	32.4	32.4	31.2					38.0
49																					
50																					
51																					
52	774C2				R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg					
53	Feedstream Number																				
54	Feed Class				F1	F1	F1	F1	F2	F2	F2	F1	F2	F2	F2	F2					
55	Feed Class 2				Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW					
56	Feedstream Description				T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms	T-303 bottoms					
57	Feed Rate																				
58	Thermal Feedrate																				
59	Heating Value																				
60																					

	B	M	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
1	Feedstreams																					
2																						
3																						
4	774C1		R2		R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3									
5	Feedstream Number						F3	F3	F3	F3	F4	F4	F4									
6	Feed Class						NG	NG	NG	NG	Spike	Spike	Spike									
7	Feed Class 2						MF	MF	MF	MF	Spike	Spike	Spike									
8	Feedstream Description		HW		HW	HW	Nat gas	Nat gas	Nat gas	Nat gas	Nat gas	Nat gas	Nat gas									
9	Feed Rate			88.4		83.1	2774613	2774505	2762213	2770444	197875	207707	207707									
10	Thermal Feedrate						153	153.3	152.6	153	0.4	0.4	0.4									
11	Heating Value																					
12	Density																					
13	Ash						5.0	5.0	5.0	5.0	10210	12379	10621									
14	Chlorine						5.0	5.0	5.0	5.0	17	22	20									
15	Antimony						0.0	0.2	0.0	0.0	0.59	0.62	0.64									
16	Arsenic						0.0	0.2	0.0	0.0	0.1	0.1	0.1									
17	Barium						0.37	0.37	0.37	0.37	0.05	1.35	0.05									
18	Beryllium						0.00	0.00	0.00	0.00	0.05	0.05	0.05									
19	Cadmium						0.01	0.01	0.01	0.01	0.05	0.05	0.05									
20	Chromium						0.13	0.13	0.13	0.13	0.1	0.1	0.1									
21	Lead						0.02	0.02	0.02	0.02	0.1	0.1	0.1									
22	Mercury						0.00	0.00	0.00	0.00	0.02	0.03	0.03									
23	Silver						0.09	0.09	0.09	0.09	0.07	0.05	0.05									
24	Thallium						0.03	0.03	0.03	0.03	0.1	0.1	0.1									
25	Stack Gas Flowrate						51467	51467	51467	51467	51467	51467	51467									
26	Oxygen						7	7	7	7	7	7.0	7.0									
27																						
28																						
29																						
30	Estimated Firing Rate																					
31																						
32																						
33	Feedrate MTEC Calculations																					
34	Ash			12.0		10.4	9.8	9.8	9.8	9.8	0.1	0.1	0.1									
35	Chlorine			3238.3		2757.7	2727.2	2727.2	2727.2	2727.2	57.2	57.2	57.2									
36	Antimony			103.2		101.5	98.6	98.6	98.6	98.6	2.3	2.3	2.3									
37	Arsenic			17.2		16.8	16.4	16.4	16.4	16.4	0.2	0.2	0.2									
38	Barium			8.7		8.5	8.2	8.2	8.2	8.2	4.2	4.2	4.2									
39	Beryllium			8.7		8.5	8.2	8.2	8.2	8.2	0.0	0.0	0.0									
40	Cadmium			8.7		8.5	8.2	8.2	8.2	8.2	0.1	0.1	0.1									
41	Chromium			17.2		16.8	16.4	16.4	16.4	16.4	1.5	1.5	1.5									
42	Lead			17.2		16.8	16.4	16.4	16.4	16.4	0.2	0.2	0.2									
43	Mercury			5.6		4.2	4.9	4.9	4.9	4.9	0.0	0.0	0.0									
44	Silver			8.7		8.5	8.2	8.2	8.2	8.2	1.0	1.0	1.0									
45	Thallium			17.2		16.8	16.4	16.4	16.4	16.4	0.3	0.3	0.3									
46																						
47	SVM			25.9		25.3	24.6	24.6	24.6	24.6	0.3	0.3	0.3									
48	LVM			43.0		42.1	41.0	41.0	41.0	41.0	1.7	1.7	1.7									
49																						
50																						
51																						
52	774C2																					
53	Feedstream Number						R1	R2	R3	Cond Avg	R1	R2	R3									
54	Feed Class						F3	F3	F3	F3	F4	F4	F4									
55	Feed Class 2						NG	NG	NG	NG	Spike	Spike	Spike									
56	Feedstream Description		HW		HW	HW	Nat gas	Nat gas	Nat gas	Nat gas	Nat gas	Nat gas	Nat gas									
57	Feed Rate						1361985	1363423	1363000	1363000	75.3	75.3	75.3									
58	Thermal Feedrate																					
59	Heating Value																					
60																						

	B	AR	AS	AT	AU	AV	AW	AX	AY	AZ
1	Feedstreams									
2										
3										
4	774C1									
5		Cond Avg		R1		R2		R3		Cond Avg
6	Feedstream Number	F4		F5		F5		F5		F5
7	Feed Class	Spike		Total		Total		Total		Total
8	Feed Class 2	Spike		Total		Total		Total		Total
9	Feedstream Description	Spike		Total		Total		Total		Total
10	Feed Rate	206573								3077252
11	Thermal Feedrate	0.5		226.1		242.2		241.1		236.6
12	Heating Value	500								
13	Density	1.01								
14	Ash	11070								11936
15	Chlorine	19.7								263
16	Antimony	0.62								9.25
17	Arsenic	0.1								1.55
18	Barium	0.48								1.57
19	Beryllium	0.05								0.77
20	Cadmium	0.05								0.78
21	Chromium	0.10								1.67
22	Lead	0.10								1.56
23	Mercury	0.03								0.45
24	Silver	0.06								0.86
25	Thallium	0.10								1.56
26										
27	Stack Gas Flowrate	51467		51467		51467		51467		51467.0
28	Oxygen	7.0		7		7.0		7.0		7.0
29										
30										
31	Estimated Firing Rate									228.7
32										
33	<i>Feedrate MTEC Calculations</i>									
34	Ash	126.7		124.1		153.7		132.0		137
35	Chlorine	225.0		2437.3		3547.3		3043.8		3009
36	Antimony	7.1		98.0		112.6		109.1		107
37	Arsenic	1.1		16.6		20.6		18.3		18
38	Barium	5.5		12.4		28.4		13.3		18
39	Beryllium	0.6		8.1		9.3		9.0		9
40	Cadmium	0.6		8.2		9.4		9.2		9
41	Chromium	1.2		17.9		19.8		19.6		19
42	Lead	1.2		16.6		18.5		18.3		18
43	Mercury	0.3		5.0		6.0		4.6		5
44	Silver	0.6		9.4		10.3		10.1		10
45	Thallium	1.2		16.7		18.7		18.4		18
46										
47	SVM	1.8		24.8		27.9		27.5		27
48	LVM	2.9		42.6		49.7		46.9		46
49										
50										
51										
52	774C2									
53		Cond Avg		R1		R2		R3		Cond Avg
54	Feedstream Number	F4		F5		F5		F5		F5
55	Feed Class	Spike		Total		Total		Total		Total
56	Feed Class 2	Spike		Total		Total		Total		Total
57	Feedstream Description	Spike		Total		Total		Total		Total
58	Feed Rate									
59	Thermal Feedrate									
60	Heating Value									

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
61																					
62																					
63																					
64																					
	BIF Feedrate Limits																				
65																					
66																					
67																					
68																					
69																					
70																					
71																					
72																					
73																					
74																					
75																					

13219
101
2203182
185
247
37
3966
13219
132190
22032
17625

g/hr
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g/hr
g/hr

	B	M	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	
61																							
62																							
63																							
64																							
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72																							
73																							
74																							
75																							

BIF Feedrate Limits

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Lead
- Mercury
- Silver
- Thallium
- Chlorine

	B	AR	AS	AT	AU	AV	AW	AX	AY	AZ
61										
62										
63										
64										
65										
66										
67										
68										
69										
70										
71										
72										
73										
74										
75										

BIF Feedrate Limits

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Lead
- Mercury
- Silver
- Thallium
- Chlorine

	A	B	C
1	Process Information		
2		Units	Cond Avg
3	774C1		
4			
5	No data reported		
6			
7	774C2		
8			
9	Combustion Chamber Temp	F	1332