

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	855
4	EPA ID No.	LAD057117434
5	Facility Name	Georgia Gulf Chemicals and Vinyls, LLC
6	Facility Location	
7	City	Plaquemine
8	State	LA
9	Unit ID Name/No.	IN-662 (Industrial Furnace for VCM and EDC production units)
10	Other Sister Facilities	None
11	Number of Sister Facilities	0
12	Combustor Class	HCl Production Furnace
13	Combustor Type	
14	Combustor Characteristics	Liquid injection, horizontal fired T-Thermal, 70 MM Btu/hr
15	Capacity (MMBtu/hr)	70
16	Soot Blowing	
17	APCS Detailed Acronym	WHB/4STGHCIABS/CWS
18	APCS General Class	WHB, LEWS
19	APCS Characteristics	Waste heat boiler, 4-stage HCl absorber, caustic scrubber. Waste heat boiler (single pass horizontal firetube, 240 psig steam, 450°F exit gas), 4 stage HCl absorbers, caustic wet scrubber (packed bed with demister)
20	Hazardous Wastes	Liq
21	Haz Waste Description	Liquid wastes -- vinyl chlorine monomer light ends (K022, K019)
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	2.5
26	Height (ft)	145
27	Gas Velocity (ft/sec)	59
28	Gas Temperature (°F)	104.39
29		
30	Permitting Status	The unit's classification has been changed from incinerator to BIF HAF
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Cond Description	
2		
3	855C10	
4		
5	Report Name/Date	Georgia Gulf, Industrial Furnace DRE Trial Burn Report Volume I, June 1998, EMI Proj No. 98-8045
6	Report Prepar	Environmental Methods, Inc.
7	Testing Firm	Environmental Methods, Inc.
8	Testing Dates	June 19-20, 1998
9	Cond Dates	June-98
10	Cond Description	DRE trial burn testing only
11	Content	DRE, CO
12		
13	855C11	
14		
15	Report Name/Date	Compliance Test Report, Georgia Gulf, April 25-26 and July 10, 1995
16	Report Prepar	Environmental Science and Engineering, Inc.
17	Testing Firm	Environmental Science and Engineering
18	Testing Dates	April 25-26 1995
19	Cond Dates	Apr-95
20	Cond. Description	Louisiana Air Permit Compliance Testing
21	Content	PM, HCl/Cl ₂ , CO (no feedrate info)
22		
23	855C12	
24		
25	Report Name/Date	Confirmation of Trial Burn Test Report for Georgia Gulf Industrial Acid Furnace, March 12-14, 1990
26	Report Prepar	Environmental Science and Engineering
27	Testing Firm	Environmental Science and Engineering
28	Testing Dates	March 12-13, 1990
29	Cond Dates	Mar-90
30	Cond Description	Trial burn -- Heavy liquid and wet/dry vent streams
31	Content	PM, HCl/Cl ₂ , DRE, CO, complete waste feed analysis
32		
33	855C13	
34		
35	Report Name/Date	Confirmation of Trial Burn Test Report for Georgia Gulf Industrial Acid Furnace, March 12-14, 1990
36	Report Prepar	Environmental Science and Engineering
37	Testing Firm	Environmental Science and Engineering
38	Testing Dates	March 13, 23, 1990
39	Cond Dates	Mar-90
40	Cond Description	Trial burn -- Heavy liquid and wet/dry vent streams
41	Content	PM, HCl/Cl ₂ , DRE, CO, complete waste feed analysis

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions											
2												
3		Comment	Units	7%	O2							
4												
5												
6	855C10					R1		R2		R3		Cond Avg
7												
8	CO (RA)	E1	ppmv	y		34.4		25.14		32.83		30.8
9												
10	Sampling Train	VOST	E1									
11	Stack Gas Flowrate		dscfm			15079		15526		14352		14986
12	O2		%			10.3		12.1		11.4		11.3
13	Moisture		%			7.9		7.5		8.9		8.1
14	Temperature		°F			105		105		103.5		104.5
15												
16	POHC DRE		Monochlorobenzene									
17	POHC Feedrate		lb/hr			104.2		107.7		105.85		
18	Emission Rate											
19	DRE	E1	%			99.999976		99.999985		99.99999		
20												
21												
22	855C11					R1		R2		R3		Cond Avg
23												
24	PM	E1	gr/dscf	y		0.01613		0.01246		0.00973		0.0128
25	CO (RA)		ppmv	n		0.21		0		0.96		
26	HCl		lb/hr			0.056		0.061		0.09		
27	Cl2		lb/hr			0.933		0.689		0.745		
28												
29	Sampling Train		PM, HCl/E1									
30	Stack Gas Flowrate		dscfm			11328		11938		12085		11783.7
31	O2		%			9.2		9.1		9.1		9.1
32	Moisture		%			9.7		6.8		7.04		7.8
33	Temperature		°F			90		90		90		90.0
34												
35	CO (RA)	E1	ppmv	y		0.2		0.0		1.1		0.5
36	HCl	E1	ppmv	y		1.0		1.1		1.6		1.2
37	Cl2	E1	ppmv	y		9.0		6.2		6.7		7.3
38	Total Chlorine	E1	ppmv	y		19.0		13.5		14.9		15.8
39												
40												
41	855C12					R1		R2		R3		Cond Avg
42												
43	PM	E1	gr/dscf	y		0.0208		0.0087		0.0091		0.0129
44	CO (RA)	E1	ppmv	y		7.27		32.68		17.55		19.2
45	HCl		lb/hr			4.7		0.207		1.684		
46	Cl2		lb/hr			2		0.98		1.186		
47												
48	Sampling Train		PM, HCl/E1									
49	Stack Gas Flowrate		dscfm			10969		11579		11402.8		11316.9
50	O2		%			8.08		10.47		10.35		9.6
51												
52	HCl	E1	ppmv	y		82.9		4.2		34.7		40.6
53	Cl2	E1	ppmv	y		18.1		10.3		12.6		13.7
54	Total Chlorine	E1	ppmv	y		119.2		24.9		59.8		68.0
55												
56	POHC DRE		1,1,2-trichloroethane									
57	POHC Feedrate		g/min			22000		22000		22000		
58	Emission Rate											
59	DRE	E1	%		>	99.9999 >		99.9999 >		99.9999		
60												
61	POHC DRE		Tetrachloroethylene									
62	POHC Feedrate		g/min			1000		1000		1000		
63	Emission Rate											
64	DRE	E1	%			99.9996		99.9985		99.9988		
65												
66	POHC DRE		Hexachloroethane									
67	POHC Feedrate		g/min			20		20		20		

	B	C	D	E	F	G	H	I	J	K	L	M
68	Emmision Rate											
69	DRE	E1	%			99.9906		99.992		99.9926		
70												
71												
72	855C13					R1		R2		R3		Cond Avg
73												
74	PM	E1	gr/dscf	y		0.0131		0.0136		0.0155		0.0141
75	CO (RA)	E1	ppmv	y		27.56		28.15		23.98		26.6
76	HCl		lb/hr			5.662		3.345		5.482		
77	Cl2		lb/hr			0.737		0.657		0.626		
78												
79	Sampling Train	PM, HCl/E1										
80	Stack Gas Flowrate		dscfm			10175		9679		9999		9951
81	O2		%			7.74		7.67		7.66		7.7
82												
83	HCl	E1	ppmv	y		104.9		64.8		102.7		90.8
84	Cl2	E1	ppmv	y		7.0		6.5		6.0		6.5
85	Total Chlorine	E1	ppmv	y		118.9		77.9		114.8		103.9
86												
87												
88	POHC DRE		1,1,2-trichloroethane									
89	POHC Feedrate		g/min			21000		21000		21000		
90	Emissions rate											
91	DRE	E1	%	>		99.9999 >		99.9999 >		99.9999		
92												
93	POHC DRE		Tetrachloroethylene									
94	POHC Feedrate		g/min			1000		1000		1000		
95	Emissions rate											
96	DRE	E1	%			99.9973		99.9977		99.9971		
97												
98	POHC DRE		Hexachloroethane									
99	POHC Feedrate		g/min			20		20		20		
100	Emissions Rate											
101	DRE	E1	%			99.9939		99.9918		99.9911		

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Feedstreams																		
2																			
3	855C12																		
4																			
5	Feedstream Number																		
6	Feed Class																		
7	Feed Class 2																		
8	Feedstream Description																		
9	Feed Rate	gal/min																	
10	Feed Rate	g/min																	
11	Feed Rate	L/min																	
12	Density	g/ml																	
13	Heat Content	Btu/lb																	
14	Viscosity	cst																	
15	Ash	% wt																	
16	Chlorine	% wt																	
17	Arsenic	mg/L	nd																
18	Barium	mg/L																	
19	Cadmium	mg/L	nd																
20	Chromium	mg/L																	
21	Lead	mg/L	nd																
22	Mercury	mg/L	nd																
23	Selenium	mg/L	nd																
24	Silver	mg/L	nd																
25																			
26	Gas Flowrate	dscfm																	
27	Oxygen	%																	
28																			
29	Thermal Feedrate	MMBtu/hr																	
30	Estimated Firing Rate	MMBtu/hr																	
31																			
32																			
33	Feedrate MTEC Calculations																		
34	Ash	mg/dscm																	
35	Chlorine	ug/dscm																	
36	Arsenic	ug/dscm	100																
37	Barium	ug/dscm																	
38	Cadmium	ug/dscm	100																
39	Chromium	ug/dscm																	
40	Lead	ug/dscm	100																
41	Mercury	ug/dscm	100																
42	Selenium	ug/dscm	100																
43	Silver	ug/dscm	100																
44																			
45	SVM	ug/dscm	100																
46	LVM	ug/dscm	7																
47																			
48																			
49																			
50	855C13																		
51																			
52	Feedstream Number																		
53	Feed Class																		
54	Feed Class 2																		
55	Feedstream Description																		
56	Feed Rate	gal/min																	
57	Feed Rate	g/min																	
58	Feed Rate	L/min																	

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
59	Density				1.3141		1.3201		1.3102			1.31								
60	Heat Content		Btu/lb		6500		6500		6500		6500									
61	Viscosity		cst		5.04		5.04		5.03		5									
62	Ash		% wt		0.058		0.054		0.068		0.06									
63	Chlorine		% wt		64.37		60.06		56.93		60.45									
64	Arsenic		mg/L	nd	0.08 nd		0.08 nd		0.08		0.08									
65	Barium		mg/L		0.2		0.2		0.2		0.2									
66	Cadmium		mg/L	nd	0.3 nd		0.2 nd		0.2		0.25									
67	Chromium		mg/L		0.8		0.7		0.7		0.8									
68	Lead		mg/L	nd	0.05 nd		0.05 nd		0.05		0.05									
69	Mercury		mg/L	nd	0.06 nd		0.06 nd		0.06		0.06									
70	Selenium		mg/L	nd	0.1 nd		0.1 nd		0.1		0.1									
71	Silver		mg/L	nd	0.5 nd		0.5 nd		0.5		0.5									
72																				
73	Gas Flowrate		dscfm		10175		9679		9999		9951									
74	Oxygen		%		7.74		7.67		7.66		7.69									
75																				
76	Thermal Feedrate		MMBtu/hr		42.6		42.9		42.7		42.6		42.6		42.9		42.7		42.6	
77	Estimated Firing Rate		MMBtu/hr		42.8		41.0		42.3		42.0		42.8		41.0		42.3		42.0	
78																				
79																				
80	<i>Feedrate MTEC Calculations</i>																			
81	Ash		mg/dscm		100.8		109.5		138.4		116.3	0	100.8		109.5		138.4		116.3	
82	Chlorine		ug/dscm		111899978		121839715		115898533		116546075		111899978		121839715		115898533		116546075	
83	Arsenic		ug/dscm	100	10.6 100		12.3 100		12.3 100		11.7 100		10.6 100		12.3 100		12.3 100		11.7	
84	Barium		ug/dscm		26.5		30.7		30.8		29.3		26.5		30.7		30.8		29.3	
85	Cadmium		ug/dscm	100	39.8 100		30.7 100		30.8 100		33.7 100		39.8 100		30.7 100		30.8 100		33.7	
86	Chromium		ug/dscm		106.0		107.4		107.7		107.0		106.0		107.4		107.7		107.0	
87	Lead		ug/dscm	100	6.6 100		7.7 100		7.7 100		7.3 100		6.6 100		7.7 100		7.7 100		7.3	
88	Mercury		ug/dscm	100	8.0 100		9.2 100		9.2 100		8.8 100		8.0 100		9.2 100		9.2 100		8.8	
89	Selenium		ug/dscm	100	13.3 100		15.3 100		15.4 100		14.7 100		13.3 100		15.3 100		15.4 100		14.7	
90	Silver		ug/dscm	100	66.3 100		76.7 100		76.9 100		73.3 100		66.3 100		76.7 100		76.9 100		73.3	
91																				
92	SVM		ug/dscm	100	46.4 100		38.4 100		38.5 100		41.1 100		46.4 100		38.4 100		38.5 100		41.1	
93	LVM		ug/dscm	9	116.6 10		119.7 10		120.0 10		118.8 9		116.6 10		119.7 10		120.0 10		118.8	

	A	B	C
1	Process Information		
2			
3		Units	Cond Avg
4			
5	855C12		
6			
7	Steam production	lb/hr	36200
8	Liquid waste feed	gal/min	10
9	Natural gas feed	scfh	2773
10	Boiler exit temperature	°F	590
11	Fume Scrubber		
12	Liquor pH	pH	8.7
13	Water feed	gal/min	10.7
14	Liquor feed	gal/min	335
15	Pressure drop	in H2O	1.31
16			
17	855C13		
18			
19	Steam production	lb/hr	37447
20	Liquid waste feed	gal/min	10
21	Natural gas feed	scfh	2.85
22	Boiler exit temperature	°F	595
23	Fume Scrubber		
24	Liquor pH	pH	8.7
25	Water feed	gal/min	12
26	Liquor feed	gal/min	350
27	Pressure drop	in H2O	1.43