

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	746
4	EPA ID No.	TXD008079527
5	Facility Name	Sterling Chemicals, Inc.
6	Facility Location	
7	City	Texas City
8	State	TX
9	Unit ID Name/No.	Waste Oxidation Boiler A
10	Other Sister Facilities	None
11	Number of Sister Facilities	0
12	Combustor Class	Liquid-fired boiler
13	Combustor Type	Liquid-fired
14	Combustor Characteristics	Firetube boiler. Zurn firetube boiler, 180 MMBtu/hr rated at 144,000 lb/hr steam at 600 psig; multiple gun burner with steam atomizers; mfg'd in '76, upgraded to 2-stage combustion in '89
15	Capacity (MMBtu/hr)	180
16	Soot Blowing	
17	APCS Detailed Acronym	None
18	APCS General Class	
19	APCS Characteristics	
20	Hazardous Wastes	Liq
21	Haz Waste Description	Hydrogen cyanide and acetonitrile
22	Supplemental Fuel	Natural gas and process gas
23		
24	Stack Characteristics	
25	Diameter (ft)	7.42
26	Height (ft)	
27	Gas Velocity (ft/sec)	75.8
28	Gas Temperature (°F)	463
29		
30	Permitting Status	Adjusted Tier I for metals and chlorine/chloride feed limits
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Cond Description	
2		
3	746C10	
4		
5	Report Name/Date	Sterling Chemicals, Inc. BIF Recertification of Compliance Test Waste Oxidation Boiler A; Sept/97
6	Report Prepar	Focus Environmental, Inc
7	Testing Firm	Clean Air Engineering
8	Testing Dates	July 24, 1997
9	Cond Dates	Jul-97
10	Cond Description	CoC; max feedrate
11	Content	PM, CO; metals, chlorine, and ash in feeds
12		
13	746C11	
14		
15	Report Name/Date	Sterling Chemicals, Inc. BIF Recertification of Compliance Test Waste Oxidation Boiler A; Sept/97
16	Report Prepar	Focus Environmental, Inc
17	Testing Firm	Clean Air Engineering
18	Testing Dates	July 7-8, 1997
19	Cond Dates	Jul-97
20	Cond Description	CoC; min 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												
5												
6	746C10	Max Feedrates				R1	R2	R3	Cond Avg			
7												
8	PM	E1	gr/dscf	y		0.001	0.0009	0.0019	0.0013			
9	CO (MHRA)	E1	ppmv	y		0.2	0.2	0.2	0.2			
10	CO (RA)	E1	ppmv	y		0.2	0.1	0.1	0.1			
11												
12	Sampling Train	PM	E1									
13	Stack Gas Flowrate		dscfm			91520	93250	93660	92810			
14	O2		%			2.8	3	3	2.93			
15	Moisture		%			17.4	17.2	17	17.2			
16	Temperature		°F			462	463	463	462.7			
17												
18	746C11	Min Temperature				R1	R2	R3	Cond Avg			
19												
20	CO (MHRA)	E1	ppmv	y		31.9	12.5	12.4	18.9			
21	CO (RA)	E1	ppmv	y		13.9	11.2	9.9	11.7			

	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																															
5	746C10		Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg		R1		R2		R3		Cond Avg								
6																															
7	Feedstream Number		F1		F2		F3		F4		F5		F6		F6		F6		F6		F6		F6								
8	Feed Class		Liq HW		Liq HW		Process gas		NG		Spike		Total		Total		Total		Total		Total		Total								
9	Feed Class 2						MF		MF		Spike		Total		Total		Total		Total		Total		Total								
10	Feedstream Description		ACN		HCN		Adsorber offgas		Nat gas		Spike NaOAc		Total		Total		Total		Total		Total		Total								
11																															
12	Feed Rate		g/hr		2588242		4584082		7172323		83423844		268531																		
13	Ash		%		nd		0.01		0.012																						
14	Ash		g/hr								123.3		nd		853		nd		844		nd		1308								
15	Chlorine		ppmw				373		7.5						1225		nd		1270				602								
16	Antimony	Values for total	ppmw		nd		0.02		nd		0.02				nd		0.15		nd		0.15		0.14								
17	Arsenic	feed are in g/hr	ppmw		nd		0.02		nd		0.02				nd		0.15		nd		0.15		0.14								
18	Barium														nd		0.07		nd		0.07		0.07								
19	Beryllium		ppmw		nd		0.002		nd		0.002				nd		0.015		nd		0.015		0.014								
20	Cadmium		ppmw		nd		0.01		nd		0.01				nd		0.07		nd		0.07		0.07								
21	Chromium		ppmw		nd		0.01		nd		0.01				nd		0.04		nd		0.05		0.06								
22	Lead		ppmw		nd		0.02		nd		0.02				nd		0.15		nd		0.15		0.14								
23	Mercury		ppmw		nd		0.0009		nd		0.0006				nd		0.0052		nd		0.0046		0.0053								
24																															
25	Stack Gas Flowrate		dscfm		92810.0		92810.0								92810.0		91520.0		93250.0		93660.0		92810.0								
26	O2		%		2.9		2.9								2.9		2.8		3.0		3.0		2.9								
27																															
28	Thermal Feedrate		MMBtu/hr		102.62		181.75		284.37				11.83				296.19		296.19		296.19		296.19								
29	Estimated Firing Rate		MMBtu/hr																				284.9								
30																															
31	<i>Feedrate MTEC Calculations</i>																														
32	Ash		mg/dscm		1.27		2.7		4.0						0.6		100		4.2		100		4.1		100		6.4		100		4.9
33	Chlorine		µg/dscm		4747.1		169.1		4916.2								6064		100		6238		2944		41		5082.1				
34	Antimony		µg/dscm	100	0.25		100		0.5		100		0.7		100		0.7		100		0.7		0.7		100		0.7				
35	Arsenic		µg/dscm	100	0.25		100		0.5		100		0.7		100		0.7		100		0.7		0.7		100		0.7				
36	Barium														100		0.3		100		0.3		0.3		100		0.3				
37	Beryllium		µg/dscm	100	0.03		100		0.0		100		0.1		100		0.1		100		0.1		0.1		100		0.1				
38	Cadmium		µg/dscm	100	0.13		100		0.2		100		0.4		100		0.3		100		0.3		0.3		100		0.3				
39	Chromium		µg/dscm	100	0.13		100		0.2		100		0.4		100		0.2		100		0.2		0.3		100		0.2				
40	Lead		µg/dscm	100	0.25		100		0.5		100		0.7		100		0.7		100		0.7		0.7		100		0.7				
41	Mercury		µg/dscm	100	0.01		100		0.0		100		0.0		100		0.03		100		0.02		0.03		100		0.0				
42																															
43	SVM		µg/dscm	100	0.38		100		0.68		100		1.1		100		1.09		100		1.08		1.03		100		1.07				
44	LVM		µg/dscm	100	0.4		100		0.7		100		1.1		100		1.0		100		1.1		1.0		100		1.0				
45																															
46																															
47																															
48	746C11		Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg		R1		R2		R3		Cond Avg								
49																															
50	Feedstream Number		F1		F2		F3		F4		F5		F6		F6		F6		F6		F6		F6								
51	Feed Class		Liq HW		Liq HW		Process gas		NG		Spike		Total		Total		Total		Total		Total		Total								
52	Feed Class 2						Non-HW		MF		Spike		Total		Total		Total		Total		Total		Total								
53	Feedstream Description		ACN		HCN		Process gas		Nat gas		Spike		Total feed		Total feed		Total feed		Total feed		Total feed		Total feed								
54	Feed Rate		g/hr		219542		224532		82232237		782914																				
55																															
56																															
57																															
58																															

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
59																							
60	Tier I BIF Limits																						
61																							
62	Antimony		g/hr		2700																		
63	Arsenic		g/hr		20.7																		
64	Barium		g/hr		450,000																		
65	Beryllium		g/hr		37.8																		
66	Cadmium		g/hr		50.4																		
67	Chromium		g/hr		7.5																		
68	Lead		g/hr		810																		
69	Mercury		g/hr		720																		
70	Silver		g/hr		27000																		
71	Thallium		g/hr		2700																		
72	Chlorine		g/hr		3600																		

	A	B	C
1	Process Information		
2			
3		Units	Avg
4			
5	746C10		
6			
7	Combustion Chamber Temp	°F	1870
8			
9	746C11		
10			
11	Combustion Chamber Temp	°F	1376