

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	733
4	EPA ID No.	CAD009547050
5	Facility Name	Dow Chemical Co.
6	Facility Location	
7	City	Torrance
8	State	CA
9	Unit ID Name/No.	U-305
10	Other Sister Facilities	U-304 (identical)
11	Number of Sister Facilities	1
12	Combustor Class	Liquid-fired boiler
13	Combustor Type	Liquid injection, process heater
14	Combustor Characteristics	Boiler -- Dowtherm process heater. 9.75 MM Btu/hr, Struthers Wells, 1979, Model No. 7CV 19-6PH, heats Dowtherm A liquid
15	Capacity (MMBtu/hr)	9.8
16	Soot Blowing	None
17	APCS Detailed Acronym	None
18	APCS General Class	
19	APCS Characteristics	NA
20	Hazardous Wastes	Liq
21	Haz Waste Description	Liquid waste (D001, D018)
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	2.33
26	Height (ft)	13.6
27	Gas Velocity (ft/sec)	16.2
28	Gas Temperature (°F)	760
29		
30	Permitting Status	Tier I metals and chlorine; Low Risk Waste Exemption (no PM, DRE for trial burn)
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Cond Description	
2		
3	733C1	
4		
5	Report Name/Date	BIF Compliance Certification and Results of the Trial Burn for BIF Units U-304 and U-305; August 1992
6	Report Prepare	ENSR Consulting and Engineering
7	Testing Firm	ENSR Consulting and Engineering
8	Testing Dates	July 1, 1992
9	Cond Dates	Jul-92
10	Condition Descr	CoC; max waste feed
11	Content	PM, CO
12		
13	733C2	
14		
15	Report Name/Date	BIF Compliance Certification and Results of the Trial Burn for BIF Units U-304 and U-305; August 1992
16	Report Prepare	ENSR Consulting and Engineering
17	Testing Firm	ENSR Consulting and Engineering
18	Testing Dates	July 2, 1992
19	Cond Dates	Jul-92
20	Condition Descr	Trial burn, boiler load at 55%
21	Content	CO
22		
23	733C3	
24		
25	Report Name/Date	BIF Compliance Certification and Results of the Trial Burn for BIF Units U-304 and U-305; August 1992
26	Report Prepare	ENSR Consulting and Engineering
27	Testing Firm	ENSR Consulting and Engineering
28	Testing Dates	July 2, 1992
29	Cond Dates	Jul-92
30	Condition Descr	Trial burn, boiler load at 90%
31	Content	CO
32		
33	733C4	
34		
35	Report Name/Date	BIF Compliance Certification and Results of the Trial Burn for BIF Units U-304 and U-305; August 1992
36	Report Prepare	ENSR Consulting and Engineering
37	Testing Firm	ENSR Consulting and Engineering
38	Testing Dates	July 2, 1992
39	Cond Dates	Jul-92
40	Condition Descr	Trial burn, boiler load at 80%
41	Content	CO
42		
43	733C5	
44		
45	Report Name/Date	BIF Compliance Certification and Results of the Trial Burn for BIF Units U-304 and U-305; August 1992
46	Report Prepare	ENSR Consulting and Engineering
47	Testing Firm	ENSR Consulting and Engineering
48	Testing Dates	July 2, 1992
49	Cond Dates	Jul-92
50	Condition Descr	Trial burn, boiler load at 70%
51	Content	CO
52		
53	733C6	
54		
55	Report Name/Date	BIF Compliance Certification and Results of the Trial Burn for BIF Units U-304 and U-305; August 1992
56	Report Prepare	ENSR Consulting and Engineering
57	Testing Firm	ENSR Consulting and Engineering
58	Testing Dates	July 2, 1992
59	Cond Dates	Jul-92
60	Condition Descr	Trial burn, boiler load at 40%
61	Content	CO

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions											
2												
3		Comme	Units	7%	O2							
4												
5												
6	733C1	Coc Testing				R1		R2		R3		Cond Avg
7												
8	PM	E1	gr/dscf	y		0.002		0.0021		0.0013		0.0018
9	CO (RA)	E1	ppmv	y		1.4		1.4		1.4		1.4
10	CO (MHRA)	E1	ppmv	y		0		0		20.7		6.9
11												
12	Sampling Train	PM	E1									
13	Stack Gas Flowrate		dscfm			1859		1451		1497		1602.3
14	O2		%			4.5		5.1		4.4		4.7
15	Moisture		%			11.3		10.7		10.6		10.9
16	Temperature		°F			759		764		758		760.3
17												
18												
19	733C2	Trial Burn				R1		R2		R3		Cond Avg
20												
21	CO (RA)		ppmv	y		8.3						8.3
22	Oxygen		%			5.3						5.3
23												
24												
25	733C3	Trial Burn				R1		R2		R3		Cond Avg
26												
27	CO (RA)		ppmv	y		1.4						1.4
28	Oxygen		%			4.5						4.5
29												
30												
31	733C4	Trial Burn				R1		R2		R3		Cond Avg
32												
33	CO (RA)		ppmv	y		2.8						2.8
34	Oxygen		%			5.2						5.2
35												
36												
37	733C5	Trial Burn				R1		R2		R3		Cond Avg
38												
39	CO (RA)		ppmv	y		1.4						1.4
40	Oxygen		%			4.7						4.7
41												
42												
43	733C6	Trial Burn				R1		R2		R3		Cond Avg
44												
45	CO (RA)		ppmv	y		21.6						21.6
46	Oxygen		%			6.4						6.4

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	Feedstreams																							
2																								
3																								
4	733C1	CoC Testing		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		Total		Total		
8	Feed Class 2			HW		HW		HW		HW		MF		MF		MF		MF		Total		Total		
9	Feedstream Description			Liq waste		Liq waste		Liq waste		Liq waste		Natural gas		Natural gas		Natural gas		Natural gas		Total		Total		
10	Feed Rate	lb/hr		240.8		242.8		237.2		240.3		118.2		118.6		122		119.6						
11	Thermal Feedrate	MMBtu/hr		4.3		4.4		4.3		4.3		2.5		2.5		2.6		2.5		6.8		6.9		
12	Viscosity	SSU		78.7		78.3		82.9		84.3														
13	Density	g/cc		0.981		0.994		0.99		0.991														
14	Heating Value	Btu/lb		18239		17928		17799		17990														
15	Ash	wt %	nd	0.1	nd	0.1	nd	0.1		0.1														
16	Chlorine	ppmw		113		62		143		131														
17	Antimony	ppmw	nd	0.55	nd	0.51	nd	0.53		0.53														
18	Arsenic	ppmw	nd	0.182	nd	0.171	nd	0.184		0.179														
19	Barium	ppmw		0.383		0.145		0.455		0.313														
20	Beryllium	ppmw		0.219		0.111		0.438		0.235														
21	Cadmium	ppmw	nd	0.055	nd	0.026	nd	0.026		0.034														
22	Chromium	ppmw		0.328		0.769		0.333		0.403														
23	Lead	ppmw	nd	0.91	nd	0.43	nd	0.44		0.56														
24	Mercury	ppmw	nd	0.1429	nd	0.1538	nd	0.1667		0.1492														
25	Silver	ppmw	nd	0.18	nd	0.17	nd	0.18		0.18														
26	Thallium	ppmw	nd	1.8	nd	0.85	nd	0.88		1.1														
27																								
28	Stack Gas Flowrate	dscfm		1859		1451		1497		1602.3														
29	Oxygen	%		4.5		5.1		4.4		4.7														
30																								
31	Estimated Firing Rate	MMBtu/hr																						
32																								
33	<i>Feedrate MTEC Calculations</i>																							
34	Ash	mg/dscm	100	29.4	100	39.4	100	35.7	100	34.8										100	29.4	100	39.4	100
35	Chlorine	ug/dscm		3320.6		2442.4		5109.4		3624.1										0	3320.6	0	2442.4	0
36	Antimony	ug/dscm	100	16.2	100	20.1	100	18.9	100	18.4										100	16.2	100	20.1	100
37	Arsenic	ug/dscm	100	5.3	100	6.7	100	6.6	100	6.2										100	5.3	100	6.7	100
38	Barium	ug/dscm		11.3		5.7		16.3		11.1										0	11.3	0	5.7	0
39	Beryllium	ug/dscm		6.4		4.4		15.6		8.8										0	6.4	0	4.4	0
40	Cadmium	ug/dscm	100	1.6	100	1.0	100	0.9	100	1.2										100	1.6	100	1.0	100
41	Chromium	ug/dscm		9.6		30.3		11.9		17.3										0	9.6	0	30.3	0
42	Lead	ug/dscm	100	26.7	100	16.9	100	15.7	100	19.8										100	26.7	100	16.9	100
43	Mercury	ug/dscm	100	4.2	100	6.1	100	6.0	100	5.4										100	4.2	100	6.1	100
44	Silver	ug/dscm	100	5.3	100	6.7	100	6.4	100	6.1										100	5.3	100	6.7	100
45	Thallium	ug/dscm	100	52.9	100	33.5	100	31.4	100	39.3										100	52.9	100	33.5	100
46																								
47	SVM	ug/dscm	100	28.4	100	18.0	100	16.7	100	21.0										100	28.4	100	18.0	100
48	LVM	ug/dscm	25	21.4	16	41.4	19	34.1	19	32.3										25	21.4	16	41.4	19
49																								
50																								
51																								
52	733C2	Trial Burn @ 55% Load		R1		R2		R3		Cond Avg														
53																								
54	Feedstream Number			F1		F1		F1		F1											F2			
55	Feed Class			Liq HW		Liq HW		Liq HW		Liq HW											NG			
56	Feed Class 2			HW		HW		HW		HW											MF			
57	Feedstream Description			Liq waste		Liq waste		Liq waste		Liq waste											Natural gas			
58	Feed Rate	lb/hr		120		120		120		120												156.8		
59	Thermal Feedrate	MMBtu/hr		2.16		2.16		2.16		2.16												3.3		
60	Heating Value	Btu/lb		17990		17990		17990		17990														

	B	Z	AA	AB
1	Feedstreams			
2				
3				
4	733C1	R3		Cond Avg
5				
6	Feedstream Number	F3		F3
7	Feed Class	Total		Total
8	Feed Class 2	Total		Total
9	Feedstream Description	Total		Total
10	Feed Rate			
11	Thermal Feedrate	6.9		6.8
12	Viscosity			
13	Density			
14	Heating Value			
15	Ash			
16	Chlorine			
17	Antimony			
18	Arsenic			
19	Barium			
20	Beryllium			
21	Cadmium			
22	Chromium			
23	Lead			
24	Mercury			
25	Silver			
26	Thallium			
27				
28	Stack Gas Flowrate			1602.3
29	Oxygen			4.7
30				
31	Estimated Firing Rate			8.3
32				
33	<i>Feedrate MTEC Calculation</i>			
34	Ash	35.7	100	34.8
35	Chlorine	5109.4	0	3624.1
36	Antimony	18.9	100	18.4
37	Arsenic	6.6	100	6.2
38	Barium	16.3	0	11.1
39	Beryllium	15.6	0	8.8
40	Cadmium	0.9	100	1.2
41	Chromium	11.9	0	17.3
42	Lead	15.7	100	19.8
43	Mercury	6.0	100	5.4
44	Silver	6.4	100	6.1
45	Thallium	31.4	100	39.3
46				
47	SVM	16.7	100	21.0
48	LVM	34.1	19	32.3
49				
50				
51				
52	733C2			
53				
54	Feedstream Number			
55	Feed Class			
56	Feed Class 2			
57	Feedstream Description			
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	W	X	Y
61																								
62																								
63																								
64	733C3		Trial Burn @ 90% Load	R1		R2		R3		Cond Avg											Cond Avg			
65																								
66	Feedstream Number			F1		F1		F1		F1											F2			
67	Feed Class			Liq HW		Liq HW		Liq HW		Liq HW											NG			
68	Feed Class 2			HW		HW		HW		HW											MF			
69	Feedstream Description			Liq waste		Liq waste		Liq waste		Liq waste											Natural gas			
70	Feed Rate		lb/hr	216		216		216		216											225.1			
71	Thermal Feedrate		MMBtu/hr	3.89		3.89		3.89		3.89											4.7			
72	Heating Value		Btu/lb	17990		17990		17990		17990														
73																								
74																								
75	733C4		Trial Burn @ 80% Load	R1		R2		R3		Cond Avg											Cond Avg			
76																								
77	Feedstream Number			F1		F1		F1		F1											F2			
78	Feed Class			Liq HW		Liq HW		Liq HW		Liq HW											NG			
79	Feed Class 2			HW		HW		HW		HW											MF			
80	Feedstream Description			Liq waste		Liq waste		Liq waste		Liq waste											Natural gas			
81	Feed Rate		lb/hr	194		194		194		194														
82	Thermal Feedrate		MMBtu/hr	3.51		3.51		3.51		3.51											4.4			
83	Heating Value		Btu/lb	17990		17990		17990		17990														
84																								
85																								
86	733C5		Trial Burn @ 70% Load	R1		R2		R3		Cond Avg											Cond Avg			
87																								
88	Feedstream Number			F1		F1		F1		F1											F2			
89	Feed Class			Liq HW		Liq HW		Liq HW		Liq HW											NG			
90	Feed Class 2			HW		HW		HW		HW											MF			
91	Feedstream Description			Liq waste		Liq waste		Liq waste		Liq waste											Natural gas			
92	Feed Rate		lb/hr	172		172		172		172												192		
93	Thermal Feedrate		MMBtu/hr	3.1		3.1		3.1		3.1											4			
94	Heating Value		Btu/lb	17990		17990		17990		17990														
95																								
96																								
97	733C6		Trial Burn @ 40% Load	R1		R2		R3		Cond Avg											Cond Avg			
98																								
99	Feedstream Number			F1		F1		F1		F1											F2			
100	Feed Class			Liq HW		Liq HW		Liq HW		Liq HW											NG			
101	Feed Class 2			HW		HW		HW		HW											MF			
102	Feedstream Description			Liq waste		Liq waste		Liq waste		Liq waste											Natural gas			
103	Feed Rate		lb/hr	85		85		85		85												119.9		
104	Thermal Feedrate		MMBtu/hr	1.53		1.53		1.53		1.53											2.5			
105	Heating Value		Btu/lb	17990		17990		17990		17990														
106																								
107																								
108	BIF Feedrate Limits																							
109																								
110	Arsenic		g/min							8.33E-04														
111	Antimony		g/min							9.06E-01														
112	Barium		g/min							1.51E+02														
113	Beryllium		g/min							1.78E-03														
114	Cadmium		g/min							1.69E-04														
115	Chromium		g/min							1.83E-03														
116	Lead		g/min							2.73E-01														
117	Mercury		g/min							2.42E-01														
118	Silver		g/min							9.06E+00														
119	Thallium		g/min							1.51E+00														
120	Chlorine		g/min							1.21E+00														

	B	Z	AA	AB
61				
62				
63				
64	733C3			
65				
66	Feedstream Number			
67	Feed Class			
68	Feed Class 2			
69	Feedstream Description			
70	Feed Rate			
71	Thermal Feedrate			
72	Heating Value			
73				
74				
75	733C4			
76				
77	Feedstream Number			
78	Feed Class			
79	Feed Class 2			
80	Feedstream Description			
81	Feed Rate			
82	Thermal Feedrate			
83	Heating Value			
84				
85				
86	733C5			
87				
88	Feedstream Number			
89	Feed Class			
90	Feed Class 2			
91	Feedstream Description			
92	Feed Rate			
93	Thermal Feedrate			
94	Heating Value			
95				
96				
97	733C6			
98				
99	Feedstream Number			
100	Feed Class			
101	Feed Class 2			
102	Feedstream Description			
103	Feed Rate			
104	Thermal Feedrate			
105	Heating Value			
106				
107				
108	BIF Feedrate Limits			
109				
110	Arsenic			
111	Antimony			
112	Barium			
113	Beryllium			
114	Cadmium			
115	Chromium			
116	Lead			
117	Mercury			
118	Silver			
119	Thallium			
120	Chlorine			