Emission Sources - Maximum Allowable Emission Rates

Permit Number 2699A, PSDTX36, PSDTX96, PSDTX653M1, PSDTX831

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
742	Tank No. 1	VOC	2.42	4.75
743	Tank 2	VOC	0.54	0.88
744	Tank No. 3	VOC	2.36	4.62
745	Tank No. 4	VOC	1.32	2.43
746	Tank No. 5	VOC	3.44	11.79
749	Tank No. 13	VOC	0.94	0.51
750	Tank No. 14	VOC	1.15	1.25
751	Tank No. 20*	VOC	0.93	0.67
751	Tank No. 20**	VOC	0.06	0.06
752	Tank 21	VOC	0.64	0.85
753	Tank 22*	VOC	0.64	0.85
753	Tank 22**	VOC	0.0	0.0
757	Tank 33	VOC	0.59	0.63
758	Tank 34	VOC	0.59	0.63
759	Tank No. 40	VOC	0.68	0.90
760	Tank No. 41	VOC	0.78	1.11
761	Tank No. 42	VOC	0.78	1.11
762	Tank 43	VOC	0.54	0.58
763	Tank 44	VOC	0.54	0.58
764	Tank 45	VOC	0.47	0.52
765	Tank No. 50	VOC	0.84	0.32
769	Storage Tank 60	VOC	0.11	0.01
770	Storage Tank 61	VOC	0.11	0.01

Emission Sources - Maximum Allowable Emission Rates

771	Storage Tank 62	VOC	0.85	0.01
772	Storage Tank 63	VOC	0.96	0.01
773	Storage Tank 81	VOC	19.50	5.50
776	Tank 91	VOC	0.63	0.86
777	Tank 92	VOC	0.63	0.86
778	Tank 93	VOC	0.63	0.86
712	Tank 225 (8)	VOC	2.42	3.06
713	Tank 226 (8)	VOC	2.42	3.06
657	Storage Tank 620	VOC	18.42	0.18
658	Storage Tank 621	VOC	18.42	0.18
714	Storage Tank 804	VOC	3.91	2.77
638	Tank 925	VOC	1.99	4.66
639	Tank 926	VOC	1.99	4.66
629	Tank 927 (9)	Xylene	0.62	0.47
630	Tank 928 (9)	Xylene	0.62	0.48
640	Tank No. 929	VOC	1.27	0.40
641	Tank No. 930	VOC	0.97	0.41
662	Storage Tank 1001	VOC	7.98	0.09
664	Storage Tank 1003	VOC	19.50	3.69
670	Storage Tank 1009	VOC	1.11	1.47
666	Storage Tank 1015	VOC	28.45	1.67
676	Storage Tank 1017	VOC	4.79	0.04
722	Storage Tank 1018	VOC	0.71	0.55

Emission Sources - Maximum Allowable Emission Rates

723	Storage Tank 1019	VOC	0.71	0.55
665A	Storage Tank 1020	VOC	28.45	1.67
724	Tank 1022	VOC	4.66	14.68
725	Tank No. 1023	VOC	5.99	20.95
726	Tank 1024	VOC	3.76	9.70
727	Storage Tank 1025	VOC	31.93	8.12
728	Storage Tank 1026	VOC	31.93	7.37
729	Tank No. 1027	VOC	1.06	1.71
677	Storage Tank 1028	VOC	9.12	7.24
718	Tank 1040	VOC	0.77	0.43
719	Tank 1041	VOC	0.70	0.34
720	Tank 1042	VOC	1.08	1.51
732	Tank 2001	VOC	5.09	1.67
733	Tank 2002	VOC	2.89	6.41
734	Tank 2003	VOC	8.80	0.93
736	Tank 2005	VOC	8.80	2.21
737	Tank 2006	VOC	8.80	2.21
739	Storage Tank 3101	VOC	10.65	0.66
740	Storage Tank 3102	VOC	10.65	0.66
433	Sour Water Tank	H_2S	0.12	0.38
		NH_3	0.01	0.01
		VOC	0.46	1.51
087	Catalyst Regenerator Vent	CO	0.22	0.97
		HCl	0.024	0.11
		Cl_2	0.17	0.72
CPICAS	CPI Carbon Canister	VOC	0.01	0.05

Emission Sources - Maximum Allowable Emission Rates

6100	Utility Boiler E	NO_x	25.60	112.13
		CO	23.84	104.43
		VOC	1.76	7.71
		SO_2	9.08	39.77
		PM_{10}	2.43	10.65
292 (6)	Combined Stack for the Crude Heater (11-H-1) and the Vacuum Heater (11-H-2)	CO	21.77	82.63
		NO_x	52.87	200.67
		PM	4.63	17.59
		PM_{10}	4.63	17.59
		$PM_{2.5}$	4.63	17.59
		SO_2	19.44	35.44
		VOC	3.35	12.73
312	Unibon Heater 21-H-1A	CO	4.44	17.66
		NO_x	3.17	12.61
		PM	0.40	1.60
		PM_{10}	0.40	1.60
		$PM_{2.5}$	0.40	1.60
		SO_2	1.42	5.65
		VOC	0.29	1.16
313	Unibon Heater 21-H-1B	CO	4.44	17.66
		NO_x	3.17	12.61
		PM	0.40	1.60
		PM_{10}	0.40	1.60
		$PM_{2.5}$	0.40	1.60
		SO_2	1.42	5.65
		VOC	0.29	1.16
362	Absorber Reboiler Heater 41-H1 (7)	CO	0.35	0.80
		NO_x	2.25	9.86
		PM	0.42	1.84

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	0.42	1.84
		$PM_{2.5}$	0.42	1.84
		SO_2	2.03	4.35
		VOC	0.30	1.33
362	Debutanizer Reboiler Heater 41-H2 (7)	CO	0.22	0.47
		NO_x	1.42	6.22
		PM	0.26	1.16
		PM_{10}	0.26	1.16
		$PM_{2.5}$	0.26	1.16
		SO_2	1.05	1.73
		VOC	0.19	0.84
262	Alky Heater 83-H-1	VOC	0.74	2.93
		NO_x	25.43	101.26
		SO_2	3.60	14.33
		PM	1.02	4.05
		PM_{10}	1.02	4.05
		$PM_{2.5}$	1.02	4.05
		CO	11.24	44.77
86	Aromatic Splitter Heater 29H5	VOC	0.28	1.13
		CO	4.35	17.31
		NO_X	5.18	20.61
		PM	0.39	1.57
		PM_{10}	0.39	1.57
		$PM_{2.5}$	0.39	1.57
		SO_2	1.61	3.20
202	ADP Heater 17H1	VOC	0.18	0.81
		CO	1.03	4.51
		NO_X	3.09	13.52
		PM	0.26	1.12

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	0.26	1.12
		$PM_{2.5}$	0.26	1.12
		SO_2	1.04	2.29
356	Process Heater 14-H-1	VOC	0.85	3.73
		NO_x	15.76	69.05
		CO	13.01	57.00
		PM	1.18	5.16
		PM_{10}	1.18	5.16
		$PM_{2.5}$	1.18	5.16
		SO_2	4.16	18.22
222	Heater 19-H-1	CO	0.86	3.75
		NO_x	1.02	4.46
		PM	0.08	0.34
		PM_{10}	0.08	0.34
		$PM_{2.5}$	0.08	0.34
		SO_2	0.28	0.45
		VOC	0.06	0.25
223	Heater 19-H-2	CO	0.33	1.46
		NO_x	0.40	1.74
		PM	0.03	0.13
		PM_{10}	0.03	0.13
		$PM_{2.5}$	0.03	0.13
		SO_2	0.11	0.18
		VOC	0.02	0.10
102	Unifier Reactor Heater	VOC	0.21	0.91
		NO_x	3.78	16.60
		SO_2	1.04	4.56
		PM_{10}	0.29	1.26
		CO	3.17	13.90

Emission Sources - Maximum Allowable Emission Rates

103	Unifier Stripper Heater	VOC	0.08	0.35
		NO_x	1.46	6.41
		SO_2	0.40	1.76
		PM_{10}	0.11	0.49
		CO	1.23	5.39
82, 83, 84	Platformer Reactor Heaters 1A, 1B, 1C, 1D	VOC	1.39	6.10
		NO_x	11.36	49.76
		SO_2	6.98	30.41
		PM_{10}	1.91	8.41
		CO	21.23	92.93
85	Platformer Stabilizer Heater	VOC	0.12	0.51
		NO_x	2.10	9.20
		SO_2	0.58	2.53
		PM_{10}	0.16	0.70
		CO	1.76	7.72
207-H-1	GHT Charge Heater	NO_x	1.93	8.44
		SO_2	1.24	5.44
		VOC	0.29	1.25
		CO	3.93	17.22
		PM	0.41	1.80
		PM_{10}	0.41	1.80
		$PM_{2.5}$	0.41	1.80
412	SRU Incinerator Stack	CO	0.20	0.85
		NO_x	1.37	6.00
		PM_{10}	0.11	0.50
		VOC	0.03	0.15
		COS	0.50	-
		CS_2	0.63	-
		H_2S	0.56	-

Emission Sources - Maximum Allowable Emission Rates

		SO_2	26.44	-
412A	SRU Incinerator Stack	CO	1.26	2.14
		NO_x	1.20	2.03
		PM_{10}	0.11	0.19
		VOC	0.08	0.14
		COS	0.50	-
		CS_2	0.63	-
		H_2S	0.56	-
		SO_2	26.44	-
412/412A	Annual SRU Incinerator Cap	COS		2.19
		CS_2		2.76
		H_2S		2.46
		SO_2		115.81
417	Cooling Tower (5)	PM_{10}	1.54	6.76
		VOC	0.18	0.77
CT	Cooling Tower	PM	0.32	1.38
		PM_{10}	0.32	1.38
		$PM_{2.5}$	0.32	1.38
		VOC	0.59	2.58
F069	No. 5 Cooling Tower (5)	PM	2.80	12.26
		PM_{10}	2.80	12.26
		$PM_{2.5}$	2.80	12.26
		VOC	0.32	1.38
F110	Cooling Tower 7	VOC	0.71	3.10
F089	Cooling Tower 9 (5)	VOC	0.15	0.67

Emission Sources - Maximum Allowable Emission Rates

F208	Cooling Tower 10	VOC	0.34	1.47
		PM	2.88	12.62
		PM_{10}	1.22	5.37
		$PM_{2.5}$	0.01	0.03
F3700	Cooling Tower 12	VOC	0.63	2.76
		PM	5.51	24.13
		PM_{10}	5.51	24.13
		$PM_{2.5}$	5.51	24.13
F297	Cooling Tower 81	VOC	1.26	5.52
		PM	0.68	2.96
		PM_{10}	0.68	2.96
		$PM_{2.5}$	< 0.01	< 0.01
F264	Alky Cooling Tower	VOC (5)	1.01	4.42
		PM	0.54	2.37
		PM_{10}	0.54	2.37
		$PM_{2.5}$	0.54	2.37
207-CT001	GHT Cooling Tower	VOC	0.12	0.50
		PM	0.05	0.20
		PM_{10}	0.05	0.20
		$PM_{2.5}$	0.05	0.20
F442	Fluor Flare	CO	0.10	0.46
		NO_x	0.01	0.06
		SO_2	0.01	0.01
		VOC	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

MEC7	Dock 7 MEC	VOC (10)	55.18	11.98
		Benzene	3.41	0.34
		NO_X	15.69	22.61
		CO	11.77	16.96
		SO_2	0.01	0.06
		PM	0.55	0.79
		PM_{10}	0.55	0.79
		$PM_{2.5}$	0.55	0.79
591	Dock 7 Loading Fugitives	VOC (10)	159.78	29.35
		Benzene	0.87	0.13
SULFURLOAD	Molten Sulfur Truck/Railcar Loading (5)	H_2S (10)	0.18	0.26
415	Sulfur Pit	H2S	0.44	1.93
F290	Fugitives (5)	VOC	34.80	152.42
F311	Unibon Process Fugitives (5)	VOC	21.17	92.73
F321	Jet/Kerosene Fugitives (5)	VOC	0.08	0.33
		H_2S	< 0.01	< 0.01
		NaOH	< 0.01	< 0.01
F331	FCC Gasoline Merox Unit Fugitives (5)	VOC	0.28	1.23
F361	Saturates Gas Plant Process Fugitives (5)	VOC	9.10	39.85
		H_2S	< 0.01	0.02
F371	No. 42 Fuel Gas Treatment Fugitives (5)	VOC	1.05	4.59
		Ammonia	< 0.01	0.02
		H_2S	0.02	0.09

Emission Sources - Maximum Allowable Emission Rates

F381	Saturated LPG Merox Fugitives (5)	VOC	1.49	6.54
		H_2S	0.01	0.04
		NaOH	< 0.01	< 0.01
F391	Unsaturates LPG Merox Fugitives (5)	VOC	1.35	5.92
		H_2S	< 0.01	0.01
		NaOH	< 0.01	< 0.01
F244	Mole Sieve Unit Process Fugitives (5)	VOC	0.40	1.74
F261	Alky Fugitives (5)	VOC	11.93	52.58
		HF	0.08	0.34
F411	SRU Process Fugitives (5)	H_2S	2.63	11.53
		NH_3	0.41	1.82
		VOC	5.99	26.24
F416	SRU Process Fugitives (5)	H_2S	0.20	0.85
		NH_3	0.01	0.01
		VOC	0.12	0.50
F211	Process Fugitives (5)	VOC	4.39	19.21
		H_2S	< 0.01	< 0.01
F355	Fugitives (5)	VOC	3.06	13.68
		Benzene	0.84	3.68
F942	Mixed C3 Terminal Fugitives (5)	VOC	7.93	34.73
F441	Fluor Flare Fugitives (5)	VOC	0.26	1.14
F221	Hydrar Fugitives (5)	VOC	1.30	5.68
		H_2S	0.01	0.01
F3720	C4SHP Fugitives (5)	VOC	2.34	10.25
F3200	DeC5 Process Fugitives (5)	VOC	1.70	7.45
F4600	MTBE Process	VOC	1.14	5.01

Emission Sources - Maximum Allowable Emission Rates

	Fugitives (5)			
F4710	C5 Merox Unit Fugitives (5)	VOC	0.91	3.96
		NaOH	< 0.01	< 0.01
F271	Utility Boiler E Fugitives (5)	VOC	0.38	1.66
F1002	Dock 7 Piping Fugitives (5)	VOC	0.37	1.61
F281 (5)	No.2 Oil and Salt Drier Area Fugitives	VOC	0.04	0.16
F821 (5)	Tank Farm & Pump House Area Fugitives (5)	VOC	15.58	68.25
		Benzene	0.49	2.13
F890	Butane Storage Fugitives (5)	VOC	0.26	1.13
F081	Platformer 4 Fugitives (5)	VOC	22.52	98.62
FUG-GHT	GHT Fugitives (5)	VOC	1.50	6.56
		H_2S	< 0.01	0.04
		NH_3	0.01	0.01
F061	FCCU 1 Process Fugitives (5)	VOC	23.09	101.40

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
NH_3 - ammonia
CS_2 - carbon disulfide
COS - carbonyl disulfide
H_2S - hydrogen sulfide
HCl - hydrogen chloride
Cl_2 - chlorine
NaOH - sodium hydroxide
HF - hydrogen fluoride

Emission Sources - Maximum Allowable Emission Rates

H_2SO_4 - sulfuric acid PM collected in balk-half of PM test collection device
HAP - hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C

(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) These emission rate limits become effective upon completion of the project identified in the Company's March 2013 permit amendment application.
(7) Each heater vents through a common stack.
(8) Permit by Rule (PBR) Number 78195 authorizes the change in service to the tanks in this permit and a tank in another permit. PBR 78195 cannot be voided, retains authorization, and is fully incorporated by reference into this table.
(9) PBR Number 90292 superseded the authorizations for EPNs 629 and 630 contained in PBR 78195 and is fully incorporated into this permit and voided.
(10) VOC emission rates are total VOC emission rates and include the benzene emission rates.

*These emission rates shall be suspended while EPN 753 is out of service and shall be reinstated when EPN 753 returns to service.

**These emission rates are temporary while EPN 753 is out of service and shall be suspended when EPN 753 returns to service.

Date: July 21, 2023