

Emission Sources - Maximum Allowable Emission Rates

Permit Number 100787 and PSDTX1314M1

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)
OC4H310	PDH-1 Heater H-310	NO _x	13.80	-
		CO	8.95	-
		CO (7)	130.32	-
		SO ₂	3.27	-
		PM	1.15	-
		PM ₁₀	1.15	-
		PM _{2.5}	1.15	-
		VOC (6)	1.19	-
		Ethylene	0.05	-
		Propylene	0.12	-
OC4H320	PDH-1 Heater H-320	NO _x	13.80	-
		CO	8.95	-
		CO (7)	130.32	-
		SO ₂	3.27	-
		PM	1.15	-
		PM ₁₀	1.15	-
		PM _{2.5}	1.15	-
		VOC (6)	1.19	-
		Ethylene	0.05	-
		Propylene	0.12	-

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OC4H330	PDH-1 Heater H-330	NO _x	13.80	-
		CO	8.95	-
		CO (7)	130.32	-
		SO ₂	3.27	-
		PM	1.15	-
		PM ₁₀	1.15	-
		PM _{2.5}	1.15	-
		VOC (6)	1.19	-
		Ethylene	0.05	-
		Propylene	0.12	-
OC4H340	PDH-1 Heater H-340	NO _x	13.80	-
		CO	8.95	-
		CO (7)	130.32	-
		SO ₂	3.27	-
		PM	1.15	-
		PM ₁₀	1.15	-
		PM _{2.5}	1.15	-
		VOC (6)	1.19	-
		Ethylene	0.05	-
		Propylene	0.12	-
OC4H310	PDH-1 Heater H-310	NO _x	-	152.21
OC4H320	PDH-1 Heater H-320			
OC4H330	PDH-1 Heater H-330	CO	-	118.45
OC4H340	PDH-1 Heater H-340	SO ₂	-	3.92
		PM	-	15.22
		PM ₁₀	-	15.22
		PM _{2.5}	-	15.22
		VOC (6)	-	16.64
		Ethylene	-	0.66

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OC4F9551	Multi-Point Ground Flare FX-955 (Routine)	Propylene	-	1.55
		CO	47.53	-
		NO _x	9.23	-
		VOC (6)	26.69	-
		Ethylene	0.30	-
		Propylene	8.28	-
		SO ₂	1.36	-
OC4F9552	Multi-Point Ground Flare FX-955 (MSS) (R)	CO	1415.64	-
		NO _x	709.10	-
		VOC (6)	1280.27	-
OC4F956	Merox Elevated Flare FS-956	Ethylene	90.08	-
		Propylene	435.21	-
		SO ₂	40.00	-
		CO	1.41	-
		NO _x	0.35	-
		VOC (6)	0.02	-
		SO ₂	0.04	-

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OC4F956	Merox Elevated Flare FS-956 (MSS)	CO	36.70	-
		NO _x	9.21	-
		VOC (6)	8.05	-
OC4F957	Low Pressure Flare FS-957	Ethylene	0.05	-
		Propylene	0.06	-
		SO ₂	8.56	-
		CO	7.93	-
		NO _x	1.56	-
		VOC (6)	2.13	-
		Ethylene	0.01	-
		Propylene	0.17	-
		SO ₂	0.18	-
OC4F957	Low Pressure Flare FS-957 (MSS)	CO	8.34	-
		NO _x	1.64	-
		VOC (6)	2.13	-
		Ethylene	0.01	-
		Propylene	0.17	-
		SO ₂	0.18	-
OC4F9551 OC4F956 OC4F957 OC4F9552	Flare Annual Source Cap	CO	-	130.72
		NO _x	-	35.58
		VOC (6)	-	40.94
		Ethylene	-	2.30
		Propylene	-	14.62
		SO ₂	-	1.32
OC4CT900	Cooling Tower CT-900	VOC (6)	1.88	8.22
		Ethylene	0.06	0.25
		Propylene	1.86	8.14
		PM	0.50	2.20

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OC4FU2	PDH-1 Fugitives (5)	PM ₁₀	0.27	1.19
		PM _{2.5}	0.27	1.19
		VOC (6)	3.92	17.01
		Ethylene	0.04	0.16
		Propylene	1.43	6.23
		HCl	0.01	0.02
OC4SV485	CCR Vent Scrubber T-485	Cl ₂	0.04	0.18
		CO	1.82	7.95
		NO _x	0.15	0.65
		HCl	0.12	0.52
		SO ₂	0.21	0.91
		Cl ₂	0.23	0.99
OC4DL460 OC4O470	Catalyst Fines Drum Loading, D-460	PM	1.82	0.17
		PM ₁₀	1.82	0.17
		PM _{2.5}	1.82	0.17
	Catalyst Addition Drum Hopper, D-470	PM	1.82	0.17
		PM ₁₀	1.82	0.17
		PM _{2.5}	1.82	0.17
OC4ST122 OC4ST905 OC4GE860	Storage Tank V-122 Vent	VOC (6)	0.03	0.01
	HCl Storage Tank V-905	HCl	0.01	0.01
	Backup Generator DG-860	CO	0.40	0.02
		NO _x	3.27	0.16
		SO ₂	0.01	0.01
		PM	0.09	0.01
OC4MED470	Catalyst Replacement (MSS)	PM ₁₀	0.09	0.01
		PM _{2.5}	0.09	0.01
		VOC	0.11	0.01
		PM	44.19	9.54

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(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 § 101.001		PM ₁₀	44.19	9.54
NO _x - total oxides of nitrogen		PM _{2.5}	44.19	9.54
OCSEFP310 - sulfur dioxide Purge		VOC	0.01	0.01
PM - total suspended particulate matter, suspended in the atmosphere, including PM ₁₀ and PM _{2.5} , as represented				
OCSEFP320 - total Fuel Burner (MSS) equal to or less than 10 microns in diameter, including PM _{2.5} as represented		VOC	0.01	0.01
OCSEFP330 - particulate matter (MSS) or less than 2.5 microns in diameter				
CO - carbon monoxide				
OCSEFP340 - hydrogen fluoride (MSS)		VOC	0.01	0.01
Cl ₂ - chlorine				
OCSEFP350 - Equipment Opening Fugitives (MSS)		VOC	722.96	0.99
(4) Compliance with annual emission limits (tons per year) (MSS)				
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations. Attachment A Activities (MSS)		VOC	4.71	0.35

(6) VOC includes speciated ethylene and propylene emissions.

(7) CO emission rates allowable only during low firing mode unless otherwise noted.

(8) Startup and Shutdown activities for the Multipoint Ground Flare do not occur simultaneously, therefore, the hourly emission rate is based on the maximum emissions from the Startup and Shutdown scenarios. The annual emissions are the sum of the Startup and Shutdown scenario emissions.

Date: June 23, 2017