

Emission Sources - Maximum Allowable Emission Rates

Permit Number 3295

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)
B-1	Boiler	CO	0.58	2.52
		NO _x	0.69	3.00
		PM	0.05	0.23
		PM ₁₀	0.05	0.23
		PM _{2.5}	0.05	0.23
		SO ₂	0.19	0.81
		VOC	0.04	0.17
F-1	Aromax Reactor Preheater	CO	0.48	2.10
		NO _x	0.57	2.50
		PM	0.04	0.19
		PM ₁₀	0.04	0.19
		PM _{2.5}	0.04	0.19
		SO ₂	0.16	0.68
		VOC	0.03	0.14
F-2	Aromax Reactor Preheater	CO	0.48	2.10
		NO _x	0.57	2.50
		PM	0.04	0.19
		PM ₁₀	0.04	0.19
		PM _{2.5}	0.04	0.19
		SO ₂	0.16	0.68
		VOC	0.03	0.14
F-3	Aromax F-3	CO	0.21	0.90
		NO _x	0.25	1.10
		PM	0.02	0.08
		PM ₁₀	0.02	0.08
		PM _{2.5}	0.02	0.08
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		SO ₂	0.07	0.68
		VOC	0.01	0.14
F-4	Aromax F-4	CO	0.21	0.90
		NO _x	0.25	1.10
		PM	0.02	0.08
		PM ₁₀	0.02	0.08
		PM _{2.5}	0.02	0.08
		SO ₂	0.07	0.68
		VOC	0.01	0.14
H-1	HDS Preheater	CO	0.77	3.36
		NO _x	0.91	4.00
		PM	0.07	0.30
		PM ₁₀	0.07	0.30
		PM _{2.5}	0.07	0.30
		SO ₂	0.25	1.08
		VOC	0.05	0.22
H-2	Hex Treater Preheater	CO	0.14	0.63
		NO _x	0.17	0.74
		PM	0.01	0.06
		PM ₁₀	0.01	0.06
		PM _{2.5}	0.01	0.06
		SO ₂	0.05	0.02
		VOC	0.01	0.04
H-3	Hot Oil Heater	CO	0.98	4.29
		NO _x	1.17	5.10
		PM	0.09	0.39
		PM ₁₀	0.09	0.39
		PM _{2.5}	0.09	0.39
		SO ₂	0.32	1.38
		VOC	0.06	0.28
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H-101	T-15 Reboiler	CO	1.38	6.05
		NO _x	1.64	7.20

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		PM ₁₀	0.13	0.55
		PM _{2.5}	0.13	0.55
		SO ₂	0.45	1.95
		VOC	0.09	0.40
H-102	T-16 Reboiler	CO	1.15	5.05
		NO _x	1.40	6.03
		PM	0.10	0.46
		PM ₁₀	0.10	0.46
		PM _{2.5}	0.10	0.46
		SO ₂	0.37	1.62
		VOC	0.08	0.33
H-103	Hot Oil Heater	CO	0.86	3.78
		NO _x	4.50	4.50
		PM	0.34	0.34
		PM ₁₀	0.34	0.34
		PM _{2.5}	0.34	0.34
		SO ₂	1.22	1.22
		VOC	0.25	0.25
H-104	T-4 Reboiler	CO	0.53	2.30
		NO _x	0.63	2.74
		PM	0.05	0.21
		PM ₁₀	0.05	0.21
		PM _{2.5}	0.05	0.21
		SO ₂	0.17	0.74
		VOC	0.03	0.15
H-105	T-17 Reboiler	CO	0.05	0.22
		NO _x	0.06	0.27
		PM	0.01	0.02
		PM ₁₀	0.01	0.02
		PM _{2.5}	0.01	0.02
		SO ₂	0.02	0.08
		VOC	0.01	0.02

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H-106	T-8 Reboiler	CO	0.26	1.13
		NO _x	0.31	1.34
		PM	0.02	0.10
		PM ₁₀	0.02	0.10
		PM _{2.5}	0.02	0.10
		SO ₂	0.07	0.33
		VOC	0.02	0.07
H-107	T-9 Reboiler	CO	0.19	0.84
		NO _x	0.23	1.00
		PM	0.02	0.08
		PM ₁₀	0.02	0.08
		PM _{2.5}	0.02	0.08
		SO ₂	0.06	0.27
		VOC	0.01	0.06
H-108	T-3 Reboiler/T-27 Reboiler	CO	0.21	0.92
		NO _x	0.25	1.10
		PM	0.02	0.08
		PM ₁₀	0.02	0.08
		PM _{2.5}	0.02	0.08
		SO ₂	0.07	0.30
		VOC	0.02	0.06
H-109	Sieve Regeneration Heater	CO	0.05	0.22
		NO _x	0.06	0.27
		PM	0.01	0.02
		PM ₁₀	0.01	0.02
		PM _{2.5}	0.01	0.02
		SO ₂	0.02	0.08
		VOC	0.01	0.02
H-110 Project Number: 251256	T-1 Reboiler	CO	0.20	0.86
		NO _x	0.23	1.02
		PM	0.02	0.08
		PM ₁₀	0.02	0.08

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		SO ₂	0.06	0.28
		VOC	0.02	0.06
H-111	T-11 Reboiler	CO	0.13	0.56
		NO _x	0.15	0.67
		PM	0.01	0.05
		PM ₁₀	0.01	0.05
		PM _{2.5}	0.01	0.05
		SO ₂	0.04	0.16
		VOC	0.01	0.04
H-113	AA HDS Preheater	CO	0.77	3.36
		NO _x	0.91	4.00
		PM	0.07	0.30
		PM ₁₀	0.07	0.30
		PM _{2.5}	0.07	0.30
		SO ₂	0.25	1.08
		VOC	0.05	0.22
H-116	T-13 Reboiler	CO	0.38	1.68
		NO _x	0.46	2.00
		PM	0.03	0.15
		PM ₁₀	0.03	0.15
		PM _{2.5}	0.03	0.15
		SO ₂	0.12	0.54
		VOC	0.03	0.11
H-117	AA Hydrogenation Preheater	CO	0.38	1.68
		NO _x	0.46	2.00
		PM	0.03	0.15
		PM ₁₀	0.03	0.15
		PM _{2.5}	0.03	0.15
		SO ₂	0.12	0.54
		VOC	0.03	0.11
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H-118	T-14 Reboiler	CO	0.38	1.68
		NO _x	0.46	2.00
		PM	0.03	0.15
		PM ₁₀	0.03	0.15
		PM _{2.5}	0.03	0.15
		SO ₂	0.12	0.54
		VOC	0.03	0.11

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		PM	0.07	0.30
		PM ₁₀	0.07	0.30
		PM _{2.5}	0.07	0.30
		SO ₂	0.25	1.09
		VOC	0.05	0.22
H-243	T-24 Reboiler	CO	1.03	4.51
		NO _x	0.61	2.68
		PM	0.09	0.41
		PM ₁₀	0.09	0.41
		PM _{2.5}	0.09	0.41
		SO ₂	0.34	1.47
		VOC	0.07	0.30
H-253	T-25 Reboiler	CO	0.38	1.68
		NO _x	0.46	2.00
		PM	0.03	0.15
		PM ₁₀	0.03	0.15
		PM _{2.5}	0.03	0.15
		SO ₂	0.12	0.54
		VOC	0.03	0.11
H-263	T-26 Reboiler	CO	0.77	3.37
		NO _x	0.46	2.00
		PM	0.07	0.30
		PM ₁₀	0.07	0.30
		PM _{2.5}	0.07	0.30
		SO ₂	0.25	1.09
		VOC	0.05	0.22
H-283 Project Number: 251256	T-28 Reboiler	CO	0.82	3.57
		NO _x	0.49	2.13
		PM	0.07	0.32
		PM ₁₀	0.07	0.32
		PM _{2.5}	0.07	0.32

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		VOC	0.05	0.22
H-293	T-29 Reboiler	CO	0.66	2.89
		NO _x	0.79	3.44
		PM	0.06	0.26
		PM ₁₀	0.06	0.26
		PM _{2.5}	0.06	0.26
		SO ₂	0.21	0.93
		VOC	0.04	0.19
H-303	Heater H-303	CO	1.28	5.61
		NO _x	1.53	6.69
		PM	0.12	0.51
		PM ₁₀	0.12	0.51
		PM _{2.5}	0.12	0.51
		SO ₂	0.41	1.81
		VOC	0.08	0.37
H-323	T-32 Reboiler	CO	0.74	3.25
		NO _x	0.88	3.86
		PM	0.07	0.29
		PM ₁₀	0.07	0.29
		PM _{2.5}	0.07	0.29
		SO ₂	0.24	1.05
		VOC	0.05	0.21
H-343	Heater H-343	CO	1.49	6.53
		NO _x	1.78	7.77
		PM	0.13	0.59
		PM ₁₀	0.13	0.59
		PM _{2.5}	0.13	0.59
		SO ₂	0.48	2.11
		VOC	0.10	0.43
Project Number: 251256 H-353	Heater H-353	CO	2.06	9.02
		NO _x	2.45	10.74

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		PM ₁₀	0.19	0.82
		PM _{2.5}	0.19	0.82
		SO ₂	0.66	2.91
		VOC	0.13	0.59
H-383	T-38 Reboiler	CO	0.82	3.61
		NO _x	1.00	4.38
		PM	0.07	0.33
		PM ₁₀	0.07	0.33
		PM _{2.5}	0.07	0.33
		SO ₂	0.26	1.16
		VOC	0.05	0.24
H-403	T-40 Reboiler	CO	2.22	9.74
		NO _x	2.70	11.83
		PM	0.20	0.88
		PM ₁₀	0.20	0.88
		PM _{2.5}	0.20	0.88
		SO ₂	0.71	3.12
		VOC	0.15	0.64
H-423	T-42 Reboiler	CO	0.45	1.98
		NO _x	0.55	2.41
		PM	0.04	0.18
		PM ₁₀	0.04	0.18
		PM _{2.5}	0.04	0.18
		SO ₂	0.15	0.64
		VOC	0.03	0.13
H-433	T-43 Reboiler	CO	0.91	3.97
		NO _x	1.10	4.82
		PM	0.08	0.36
		PM ₁₀	0.08	0.36
		PM _{2.5}	0.08	0.36
		SO ₂	0.29	1.27

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H-700	HDS Heater	CO	1.73	7.57
		NO _x	2.10	9.20
		PM	0.16	0.69
		PM ₁₀	0.16	0.69
		PM _{2.5}	0.16	0.69
		SO ₂	0.55	2.43
		VOC	0.11	0.50
RH-1	Reformer Reactor Preheater	CO	1.65	7.21
		NO _x	2.00	8.76
		PM	0.15	0.65
		PM ₁₀	0.15	0.65
		PM _{2.5}	0.15	0.65
		SO ₂	0.53	2.31
		VOC	0.11	0.47
RH-2	Reformer Reactor Preheater	CO	0.82	3.61
		NO _x	1.00	4.38
		PM	0.07	0.33
		PM ₁₀	0.07	0.33
		PM _{2.5}	0.07	0.33
		SO ₂	0.26	1.16
		VOC	0.05	0.24
RH-3	Reformer Reactor Preheater	CO	0.66	2.89
		NO _x	0.80	3.50
		PM	0.06	0.26
		PM ₁₀	0.06	0.26
		PM _{2.5}	0.06	0.26
		SO ₂	0.21	0.92
		VOC	0.04	0.19
F-10 Project Number: 251256	Flare F-10	CO	14.36	8.47
		NO _x	2.05	1.42
		VOC	39.91	12.88

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F-11	Flare Pilot	CO	0.07	0.29
		NO _x	0.02	0.07
		VOC	<0.01	0.02
		SO ₂	<0.01	<0.01
DR-1	Drum Loading	VOC	16.86	2.77
MAINFUG	Main Plant Truck Loading Fugitives (5)	VOC	76.60	18.11
FUG	Process Fugitives (5)	VOC	4.30	18.83
WESTFUG	West Plant Truck Loading Losses Fugitives (5)	VOC	0.19	0.07
TK-1	Tank 1	VOC	1.72	2.13
TK-2	Tank 2	VOC	1.40	1.00
TK-4	Tank 4	VOC	0.66	2.89
TK-8	Tank 8	VOC	0.11	0.02
TK-9	Tank 9	VOC	0.06	0.02
TK-11	Tank 11	VOC	0.69	0.41
TK-12	Tank 12	VOC	0.69	0.41
TK-13	Tank 13	VOC	0.69	0.41
TK-14	Tank 14	VOC	0.69	0.41
TK-40	Tank 40	VOC	1.68	1.08
TK-41	Tank 41	VOC	1.68	1.08
TK-48	Tank 40	VOC	0.42	1.83
TK-52	Tank 52	VOC	5.02	3.00
TK-55	Tank 55	VOC	1.70	2.00
TK-56	Tank 56	VOC	1.20	2.20
TK-57	Tank 57	VOC	1.13	4.69
TK-61	Tank 61	VOC	1.15	4.76
TK-62	Tank 62	VOC	1.01	1.40
TK-63	Tank 63	VOC	0.65	0.94
TK-64	Tank 64	VOC	1.11	1.00
TK-65	Tank 65	VOC	0.26	0.73
TK-66	Tank 66	VOC	0.91	3.98
TK-67	Tank 67	VOC	0.01	0.01

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TK-68	Tank 68	VOC	0.01	0.01
TK-95	Tank 95	VOC	0.76	0.19
TK-96	Tank 96	VOC	0.76	0.19

- (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
- SO₂ - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
- PM₁₀ - 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
- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: September 13, 2019