

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. 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 *	
			lb/hr	TPY
TK-1	Tank 1	VOC	0.22	0.96
TK-2	Tank 2	VOC	1.40	4.02
TK-4	Tank 4	VOC	0.66	2.89
TK-7	Tank 7	VOC	0.04	0.07
TK-8	Tank 8	NaOH	0.11	0.02
TK-9	Tank 9	NaHS	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	0.36	1.59
TK-41	Tank 41	VOC	0.36	1.60
TK-48	Tank 48	VOC	0.42	1.83
TK-52	Tank 52	VOC	5.02	8.26
TK-54	Tank 54	VOC	0.99	4.30

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>
TK-55	Tank 55	VOC	1.7	4.66
TK-56	Tank 56	VOC	1.2	3.53
TK-57	Tank 57	VOC	1.38	6.03
TK-61	Tank 61	VOC	1.38	6.03
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	4.51
TK-65	Tank 65	VOC	0.12	1.49
TK-66	Tank 66	VOC	0.91	3.98
TK-67	Tank 67	NaOH	<0.01	<0.01
TK-68	Tank 68	NaHS	<0.01	<0.01
H-110	T-1- Reboiler	PM	0.01	0.05
		SO ₂	0.04	0.16
		NO _x	0.15	0.67
		CO	0.13	0.56
		VOC	0.01	0.04
H-2	Hex Treater Preheater	PM	0.02	0.10
		SO ₂	0.07	0.33
		NO _x	0.31	1.34
		CO	0.26	1.13
		VOC	0.02	0.07
H-111	T-11 Reboiler	PM	0.01	0.05
		SO ₂	0.04	0.16

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			<u>lb/hr</u>	<u>TPY</u>
		NO _x	0.15	0.67
		CO	0.13	0.56
		VOC	0.01	0.04
F-3/F-4	Aromax Reactor Preheater	PM	0.02	0.10
		SO ₂	0.07	0.33
		NO _x	0.29	1.29
		CO	0.25	1.08
		VOC	0.02	0.07
H-1	HDS Preheater	PM	0.09	0.41
		SO ₂	0.34	1.47
		NO _x	1.23	5.37
		CO	1.03	4.51
		VOC	0.07	0.30
H-3	Hot Oil Heater	PM	0.12	0.53
		SO ₂	0.43	1.88
		NO _x	1.58	6.92
		CO	1.33	5.82
		VOC	0.09	0.38
B-1	Boiler	PM	0.18	0.33
		SO ₂	0.21	0.90
		NO _x	1.80	3.38
		CO	0.65	2.84
		VOC	0.04	0.19
H-108	T-3 Reboiler	PM	0.01	0.04
		SO ₂	0.04	0.16
		NO _x	0.12	0.54

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			<u>lb/hr</u>	<u>TPY</u>
		CO	0.10	0.45
		VOC	0.01	0.03
H-105	T-17 Reboiler	PM	<0.01	0.02
		SO ₂	0.02	0.08
		NO _x	0.06	0.27
		CO	0.05	0.22
		VOC	<0.01	0.02
H-107	T-9 Reboiler	PM	0.02	0.09
		SO ₂	0.07	0.33
		NO _x	0.28	1.24
		CO	0.24	1.04
		VOC	0.02	0.07
H-101	T-15 Reboiler	PM	0.17	0.75
		SO ₂	0.60	2.62
		NO _x	2.25	9.88
		CO	1.90	8.30
		VOC	0.12	0.54
H-102	T-16 Reboiler	PM	0.31	0.59
		SO ₂	0.36	1.55
		NO _x	3.12	5.90
		CO	1.13	4.96
		VOC	0.07	0.32
H-103	Hot Oil Heater	PM	0.31	0.59
		SO ₂	0.36	1.55
		NO _x	3.12	5.90
		CO	1.13	4.96
		VOC	0.07	0.32
RH-1	Reformer Reactor Preheater	PM	0.11	0.49
		SO ₂	0.39	1.72
		NO _x	1.47	6.44

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			<u>lb/hr</u>	<u>TPY</u>
		CO	1.23	5.41
		VOC	0.08	0.35
RH-2	Reformer Reactor Preheater	PM	0.07	0.33
		SO ₂	0.26	1.15
		NO _x	0.98	4.29
		CO	0.82	3.61
		VOC	0.05	0.24
RH-3	Reformer Reactor Preheater	PM	0.04	0.16
		SO ₂	0.13	0.57
		NO _x	0.49	2.15
		CO	0.41	1.80
		VOC	0.03	0.12
H-104	T-4 Reboiler	PM	0.06	0.24
		SO ₂	0.21	0.90
		NO _x	0.73	3.22
		CO	0.62	2.70
		VOC	0.04	0.18
F-1	Aromax Reactor Preheater	PM	0.05	0.20
		SO ₂	0.17	0.74
		NO _x	0.61	2.69
		CO	0.52	2.26
		VOC	0.03	0.15
H-106	T-8 Reboiler	PM	0.02	0.10
		SO ₂	0.07	0.33
		NO _x	0.31	1.34
		CO	0.26	1.13
		VOC	0.02	0.07
F-2	Aromax Reactor Preheater	PM	0.05	0.20
		SO ₂		0.17
		0.74		
		NO _x	0.61	2.69

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			<u>lb/hr</u>	<u>TPY</u>
		CO	0.52	2.26
		VOC	0.03	0.15
H-113	AA HDS Preheater	PM	0.09	0.41
	1.47	SO ₂		0.34
		NO _x	1.23	5.37
		CO	1.03	4.51
		VOC	0.07	0.30
H-109	Sieve Regeneration Heater	PM	<0.01	0.02
		SO ₂	0.02	0.08
		NO _x	0.06	0.27
		CO	0.05	0.22
		VOC	<0.01	0.02
H-116	T-13 Reboiler	PM	0.05	0.20
		SO ₂	0.17	
		NO _x	0.61	
		CO	0.52	2.26
		VOC	0.03	0.15
H-117	AA Hydrogenation Preheater	PM	0.05	0.20
		SO ₂	0.17	
		NO _x	0.61	
		CO	0.52	2.26
		VOC	0.03	0.15
H-118	T-30 Reboiler	PM	0.16	0.65
		SO ₂	0.544	
		NO _x	2.70	
		CO	1.69	7.18
		VOC	0.11	0.47

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			<u>lb/hr</u>	<u>TPY</u>
H-213	T-21 Reboiler	PM	0.09	0.41
		SO ₂	0.34	1.47
		NO _x	0.61	2.68
		CO	1.03	4.51
		VOC	0.07	0.30
H-243	T-24 Reboiler	PM	0.09	0.41
		SO ₂	0.34	1.47
		NO _x	0.61	2.68
		CO	1.03	4.51
		VOC	0.07	0.30
H-253	T-25 Reboiler	PM	0.05	0.20
		SO ₂	0.17	0.74
		NO _x	0.61	2.68
		CO	0.52	2.26
		VOC	0.03	0.15
H-263	T-26 Reboiler	PM	0.09	0.41
		SO ₂	0.34	1.47
		NO _x	0.61	2.68
		CO	1.03	4.51
		VOC	0.07	0.30
H-283	T-28 Reboiler	PM	0.05	0.20
		SO ₂	0.17	0.74
		NO _x	0.61	2.68
		CO	0.52	2.26
		VOC	0.03	0.15
H-293	T-29 Reboiler	PM	0.05	0.20
		SO ₂	0.17	0.74
		NO _x	0.61	2.68
		CO	0.52	2.26
		VOC	0.03	0.15

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			<u>lb/hr</u>	<u>TPY</u>
F-10	Flare	NO _x	0.41	1.12
		CO	2.94	7.89
		VOC	5.99	15.19
DR-1	Drum Filling	VOC	2.20	1.08
FUG	Fugitives (4)	VOC	3.09	13.50

- (1) Emission point identification - either specific equipment designation or emission point number from a 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 - particulate matter, suspended in the atmosphere, including PM₁₀.
 PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns in diameter is emitted.
- CO - carbon monoxide
 NaOH - sodium hydroxide
 NaHS - sodium hydrosulfide
- (4) Fugitive emissions are an estimate only and should not be considered as maximum allowable emission rates.
- (5) The total emission of hazardous air pollutants (HAPs), as defined in 40 CFR Part 61 and 40 CFR Part 63, from all sources at the site of this permit (TCEQ Account No. HF-0017-K) shall be limited to a maximum of 10 tpy of any single HAP and a maximum of 25 tpy for all HAPs combined.

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			<u>lb/hr</u>	<u>TPY</u>

- * Emission rates are based on and the facilities are limited by the following maximum operating schedule:

Hrs/day ____ Days/week ____ Weeks/year ____ or Hrs/year 8,760

Dated January 24, 2005