

# Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 723 and PSDTX828M1

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)
AP-2	N-3 Backup Instrument Air Compressor	NO <sub>x</sub>	6.21	2.23
		CO	1.26	0.45
		VOC	0.10	0.03
		PM	0.08	0.03
		SO <sub>2</sub>	0.01	0.01
CT-N5-N	N-5 Cooling Tower North	VOC	0.45	1.95
		PM	2.04	8.92
CT-N5-S	N-5 Cooling Tower South	VOC	0.62	2.72
		PM	2.84	12.44
CT-N7	N-7 Cooling Tower	VOC	1.67	7.33
		PM	7.65	33.51
N-3R	N-7/8 Preheaters	NO <sub>x</sub>	0.34	1.37
		CO	0.51	2.03
		VOC	0.07	0.30
		PM	0.10	0.41
		PM <sub>10</sub>	0.10	0.41
		PM <sub>2.5</sub>	0.10	0.41
		SO <sub>2</sub>	<0.01	0.01
N-4	N-7/8 Absorber Feed Water Tank	HCN	0.01	0.01
		NH <sub>3</sub>	2.54	0.01

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N-6	N-3/7 Feed and Exit Gas Flare	NO <sub>x</sub>	130.65	7.78
		CO	699.09	136.39
		VOC (other)	0.19	0.01
		CH <sub>3</sub> CN	0.03	0.09
		SO <sub>2</sub>	0.11	0.01
		HCN	28.36	1.77
		NH <sub>3</sub>	31.88	0.66
		Acetone	0.16	0.70
N-7	N-5/6 Safety Vent Stack	VOC	0.58	0.01
		NH <sub>3</sub>	1.46	0.13
N-8	N-3/4 Safety Vent Stack	VOC	0.58	0.01
		NH <sub>3</sub>	1.46	0.13
N-9	N-7/8 SVG Fan	HCN	0.07	0.24
		NH <sub>3</sub>	0.02	0.03
N-10	N-3/4 Alcohol Tank	VOC	0.01	0.01
N-12R	N-3/4 Preheaters	NO <sub>x</sub>	0.34	1.37
		CO	0.51	2.03
		VOC	0.07	0.30
		PM	0.10	0.41
		PM <sub>10</sub>	0.10	0.41
		PM <sub>2.5</sub>	0.10	0.41
		SO <sub>2</sub>	<0.01	0.01

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N-12	N-3 Preheater (6)	NO <sub>x</sub>	0.46	2.01
		CO	0.01	0.02
		VOC	0.03	0.13
		PM	0.04	0.18
		PM <sub>10</sub>	0.04	0.18
		PM <sub>2.5</sub>	0.04	0.18
		SO <sub>2</sub>	0.01	0.01
N-13	N-4 Preheater (6)	NO <sub>x</sub>	0.34	1.50
		CO	0.01	0.02
		VOC	0.03	0.12
		PM	0.04	0.17
		PM <sub>10</sub>	0.04	0.17
		PM <sub>2.5</sub>	0.04	0.17
		SO <sub>2</sub>	0.01	0.01
N-14	N-5/6 Preheater	NO <sub>x</sub>	1.83	8.02
		CO	0.02	0.07
		VOC	0.09	0.38
		PM <sub>10</sub>	0.12	0.52
		SO <sub>2</sub>	0.01	0.01
N-15	N-7/8 Alcohol Tank	VOC	0.01	0.01
N-16	N-5 8-10 Alcohol Storage Tank No. 27745	VOC	0.01	0.01
N-17	N-5/6 Flare	NO <sub>x</sub>	152.13	48.41
		CO	450.52	235.34
		VOC (other)	0.10	0.01

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		CH <sub>3</sub> CN	1.25	2.00
		CH <sub>2</sub> CHCN	0.78	1.20
		SO <sub>2</sub>	0.11	0.03
		HCN	23.98	16.96
		NH <sub>3</sub>	171.72	49.15
		Acetone	4.12	7.11
N-18	Wastewater Collection Tank No. 91357	HCN	0.02	0.01
N-19	N-5 Acetone Day Tank	Acetone	0.56	0.95
T-96662	Acetone Dock Tank	Acetone	1.36	2.33
FN	Fugitives (5)	HCN	0.43	1.83
		NH <sub>3</sub>	0.32	0.79
		ACH	0.44	1.93
		Acetone	0.53	2.26
		CH <sub>3</sub> CN	0.15	0.62
		CH <sub>2</sub> CHCN	0.07	0.31
		H <sub>2</sub> SO <sub>4</sub>	0.01	0.02
		CO	0.04	0.17
TK-FUG	Tank N-96662 Fugitives (5)	Acetone	0.04	0.18
N_MSSTK	Fixed Roof Tank MSS	Isodecyl Alcohol	0.11	0.01
		HCN	0.92	0.01
N_MSSFR	Floating Roof Tank MSS	Acetone	68.80	0.25
N_MSSPH	Pump and Heat Exchanger MSS	HCN	0.17	0.01
		NH <sub>3</sub>	0.21	0.01
		ACH	0.22	0.02
		Acetone	0.19	0.01

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		VOC (other)	0.05	0.01
N_DEGAS	Equipment Degassing	HCN	0.35	0.01
		NH <sub>3</sub>	1.50	0.01
		ACH	0.01	0.01
		Acetone	0.28	0.01
		VOC (other)	0.11	0.01
NMISC MSS	Miscellaneous MSS Activities	HCN	0.12	0.01
		NH <sub>3</sub>	0.06	0.01
		ACH	0.22	0.01
		Acetone	0.29	0.01
		H <sub>2</sub> SO <sub>4</sub>	0.11	0.01
		VOC (other)	0.16	0.01
N-3 MSS	N-7/8 Preheaters MSS	CO	2.64	0.02
		NO <sub>x</sub>	0.21	0.01
		PM	0.03	0.01
		PM <sub>10</sub>	0.03	0.01
		PM <sub>2.5</sub>	0.03	0.01
		SO <sub>2</sub>	0.01	0.01
		VOC	0.02	0.01
N-12 MSS	N-3/4 Preheaters MSS	CO	2.64	0.02
		NO <sub>x</sub>	0.21	0.01
		PM	0.03	0.01
		PM <sub>10</sub>	0.03	0.01
		PM <sub>2.5</sub>	0.03	0.01
		SO <sub>2</sub>	0.01	0.01
		VOC	0.02	0.01

(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<sub>x</sub> - total oxides of nitrogen

SO<sub>2</sub> - sulfur dioxide

PM - total particulate matter including PM<sub>10</sub> and PM<sub>2.5</sub>

PM<sub>10</sub> - particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>

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PM <sub>2.5</sub>	-	particulate matter equal to or less than 2.5 microns in diameter
CO	-	carbon monoxide
HCN	-	hydrogen cyanide
NH <sub>3</sub>	-	ammonia
ACH	-	acetone cyanohydrin
CH <sub>3</sub> CN	-	acetonitrile
CH <sub>2</sub> CHCN	-	acrylonitrile
H <sub>2</sub> SO <sub>4</sub>	-	sulfuric acid

- (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.
- (6) The N-3 Preheater (EPN N-12) and N-4 Preheater (EPN 13) will be replaced with a single preheater designated as the N-3/4 Preheaters (EPN N-12R). EPN N-12 and EPN N-13 emission rates represent interim operations. When the replacement project has been completed the Company shall notify the TCEQ and submit a permit alteration request to remove the interim operation elements from the permit including EPN N-12 and EPN N-13.

Date: May 8, 2019