

# Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 4773A and PSDTX1606

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)
SGFUG1C3C	Syngas Process and Propylene Refrigeration Fugitives (5)	CO	17.62	77.18
		VOC	3.06	13.39
		Propylene	0.82	3.60
SGCT	Cooling Tower	VOC	16.50	16.44
		Propylene	2.56	3.89
		Ethylene	1.71	1.30
		Butene	3.41	2.59
		PM	1.02	4.48
		PM <sub>10</sub>	0.72	3.13
		PM <sub>2.5</sub>	0.43	1.88
SG23-50-1	CE Boiler (6)	VOC	1.68	7.58
		NO <sub>x</sub>	60.80	72.96
		SO <sub>2</sub>	4.08	17.87
		PM	2.07	9.05
		PM <sub>10</sub>	2.07	9.05
		PM <sub>2.5</sub>	2.07	9.05
		CO	20.32	85.99

Emission Sources - Maximum Allowable Emission Rates

SG23-51-1	Superheater (6)	VOC	8.45	6.17
		Methanol	7.56	3.10
		NO <sub>x</sub>	4.13	15.46
		SO <sub>2</sub>	2.43	8.37
		PM	1.23	4.24
		PM <sub>10</sub>	1.23	4.24
		PM <sub>2.5</sub>	1.23	4.24
		CO	17.18	60.40
SG20-2-2	Acid Gas Flare	VOC	1.72	0.13
		Methanol	1.69	0.08
		NO <sub>x</sub>	2.19	1.18
		SO <sub>2</sub>	0.08	0.11
		CO	95.71	49.72
SG20-3-2	Cold Flare	NO <sub>x</sub>	11.45	7.80
		SO <sub>2</sub>	0.68	1.39
		CO	490.47	99.88
		VOC	1.38	2.27
		Methanol	0.72	1.45
		Propylene	0.38	0.25

Emission Sources - Maximum Allowable Emission Rates

SG21-1-1	High-Pressure Flare	NO <sub>x</sub>	89.54	19.83
		SO <sub>2</sub>	4.24	1.07
		CO	3552.69	479.17
		VOC	21.20	2.73
		Butane	0.14	0.03
		Methanol	3.83	0.26
		Propylene	0.07	0.31
		1, 3 Butadiene	1.90	0.21
		Isomers of butene	13.52	1.48
SG810-21-1	Neutralization Tank	VOC	0.01	0.05
		Methanol	0.01	0.04
		NH <sub>3</sub>	0.01	0.01
SG810-22-1	Equalization Tank and Diversion Tank	VOC	0.29	1.28
		Methanol	0.22	0.94
		NH <sub>3</sub>	0.16	0.68
SG810-28	West Basin	VOC	0.90	3.94
		Methanol	0.74	3.24
		NH <sub>3</sub>	0.01	0.06
SG810-29	Mid Basin	VOC	1.37	6.02
		Methanol	1.14	5.01
		NH <sub>3</sub>	0.01	0.06

Emission Sources - Maximum Allowable Emission Rates

SG810-30	Aeration Basin	VOC	0.90	3.94
		Methanol	0.74	3.24
		NH <sub>3</sub>	0.01	0.06
LFTSTN	Process Lift Station	VOC	0.01	0.01
		Methanol	0.01	0.01
		NH <sub>3</sub>	0.01	0.01
MBR	Membrane Bioreactor	VOC	0.05	0.20
		Methanol	0.05	0.20
		NH <sub>3</sub>	0.01	0.01
CWSPIT	CWS Divert Pit	VOC	0.01	0.02
		Methanol	0.01	0.01
		NH <sub>3</sub>	0.01	0.01
SG5-1-1	Wastewater Hold Tank	VOC	0.01	0.01
		Methanol	0.01	0.01
		NH <sub>3</sub>	0.01	0.05
SG5-1-14	Carbon Water Tank	VOC	0.01	0.02
		Methanol	0.01	0.01
		NH <sub>3</sub>	0.01	0.06
SG5-1-17	Gray Water Tank	VOC	0.01	0.02
		Methanol	0.01	0.01
		NH <sub>3</sub>	0.01	0.05
SG13-25-1	Methanol Storage Tank	VOC	0.23	0.24
SG930D	Diesel Storage Tank	VOC	0.30	0.01
SG930U	Gasoline/Diesel Dual Storage Tank	VOC	8.92	0.23

Emission Sources - Maximum Allowable Emission Rates

PW310-50-1	Emergency Firewater Pump Engine	VOC	1.79	0.06
		NO <sub>x</sub>	18.60	0.60
		SO <sub>2</sub>	1.23	0.04
		PM	1.32	0.04
		PM <sub>10</sub>	1.32	0.04
		PM <sub>2.5</sub>	1.32	0.04
		CO	4.01	0.13
PW310-50-1.2	Diesel Storage Tank	VOC	0.27	0.01
DEGREASER	Cold Solvent Degreaser	VOC	3.04	0.39
MSS-LINDE	Maintenance, Startup and Shutdown Emissions directly to Atmosphere (7)	VOC	77.76	6.25
		Methanol	40.64	1.48
		Propylene	0.16	<0.01
		CO	3.72	0.19
		NO <sub>x</sub>	2.04	0.22
		PM	5.43	0.50
		PM <sub>10</sub>	2.91	0.43
		PM <sub>2.5</sub>	0.43	0.06
		SO <sub>2</sub>	0.01	<0.01
		NH <sub>3</sub>	1.36	0.23
MSS-POX3	MSS Emissions Directly to Atmosphere – 3 <sup>rd</sup> POx Reactor Start-ups and Purging	VOC	0.06	0.01
		CO	0.97	0.09
		NO <sub>x</sub>	1.02	0.11
		PM	0.08	0.01
		PM <sub>10</sub>	0.08	0.01
		PM <sub>2.5</sub>	0.08	0.01
		SO <sub>2</sub>	0.01	<0.01
MSS-LNDCNT	Maintenance, Startup and Shutdown Emissions to Plant Flares (8)	VOC	-	0.48
		Methanol	-	0.25
		Propylene	-	0.06
		CO	-	237.86
		NO <sub>x</sub>	-	10.79

Emission Sources - Maximum Allowable Emission Rates

		SO <sub>2</sub>	-	0.23
		NH <sub>3</sub>	-	0.09
MSS-LNDCNTTEMP	Maintenance, Startup and Shutdown Emissions to Temporary Control (9)	VOC	-	0.08
		Methanol	-	0.01
		Propylene	-	0.06
		CO	-	1.64
		NO <sub>x</sub>	-	0.15
		PM	0.04	0.01
		PM <sub>10</sub>	0.04	0.01
		PM <sub>2.5</sub>	0.04	0.01
		SO <sub>2</sub>	-	<0.01
		NH <sub>3</sub>	-	<0.01
MSS-LNDCNT, MSS-LNDCNTTEMP	MSS Emissions to Plant Flares or Temporary Control Hourly Cap	VOC	102.14	-
		Methanol	56.94	-
		Propylene	43.04	-
		CO	3108.83	-
		NO <sub>x</sub>	133.60	-
		SO <sub>2</sub>	4.64	-
		NH <sub>3</sub>	0.37	-
SAMPLE	In-Situ Sampling and MeOH Sampling	VOC	<0.01	<0.01
		Methanol	<0.01	<0.01
		CO	8.64	1.58
PRANLZVNT	Process Analyzer Vents	CO	0.39	1.69
		NO <sub>x</sub>	<0.01	0.01
PRPUNLD	Propylene Unloading Hose Purge	VOC	3.53	0.01
		Propylene	3.53	0.01
POXNH3FLARE	Wastewater Ammonia Stripper Flare	VOC	0.10	0.45
		Methanol	0.03	0.11
		NO <sub>x</sub>	0.11	0.50
		CO	0.53	2.33
		SO <sub>2</sub>	0.01	0.06

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		NH <sub>3</sub>	0.21	0.92
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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 § 101.1
  - NO<sub>x</sub> - total oxides of nitrogen
  - SO<sub>2</sub> - sulfur dioxide
  - PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented
  - PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented
  - PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter
  - CO - carbon monoxide
  - NH<sub>3</sub> ammonia
  - MeOH methanol
- (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) Includes MSS emissions for the CE Boiler, 36 hrs for 3 events @ 12 hr /event, and for the Superheater, 60 hrs for 3 events @ 20 hrs/event.
- (7) The emission includes 13.95 lb/hr & 1.11 tpy VOC, 0.62 lb/hr & 0.05 tpy PM or PM<sub>10</sub>, and 0.06 lb/hr and 0.005 tpy PM<sub>2.5</sub> of inherently low emitting sources emissions addressed in Appendix A to the Special Conditions, and which should be assumed to be emitted in any hour or 12-month period for which compliance is evaluated for the EPN.
- (8) Control includes the Cold, High Pressure, and Wastewater Ammonia Stripper Flares (EPNs SG20-3-2, SG 21-1-1, and POXNH3FLARE) with emissions accounted separately from the currently authorized emissions for the flares.
- (9) Temporary control devices identified in Appendix C to the Special Conditions.

Date: May 25, 2023