

Emission Sources - Maximum Allowable Emission Rates

Permit Number 865A and PSDTX1016M2

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)
INCIN	Incinerator - Total	PM	1.01	3.35
		PM ₁₀	1.01	3.35
		PM _{2.5}	1.01	3.35
		SO ₂	139.00	60.14
		NOx	1.49	3.49
		CO	1.61	7.06
		VOC	0.37	0.74
		H ₂ S	0.10	0.20
		TRS	0.36	0.70
SULFOX-TO	Thermal Oxidizer 1	PM	5.71	25.01
		PM ₁₀	5.71	25.01
		PM _{2.5}	5.71	25.01
		SO ₂ (Normal Operations)	23.66	13.93
		SO ₂ (MSS)	100.00	
		NOx	16.16	70.66
		CO	32.70	70.52
		VOC	6.66	10.65
		TRS	0.02	0.01
SULFOX-TO2	Thermal Oxidizer 2	PM	2.77	11.19
		PM ₁₀	2.77	11.19
		PM _{2.5}	1.66	6.71
		SO ₂ (Normal Operations)	11.48	6.78
		SO ₂ (MSS)	65.00	

Emission Sources - Maximum Allowable Emission Rates

		NOx	16.16	70.13
		CO	25.00	71.82
		VOC	6.60	11.47
		TRS	0.02	0.01
SULFOX-CT2	Sulfox Cooling Tower	PM	0.07	0.29
		PM ₁₀	0.07	0.29
		PM _{2.5}	< 0.01	< 0.01
		VOC	0.34	1.51
FLARENEW	New Flare – MeSH Production or New Flare – EtSH Production	SO ₂	625.00	-
		NOx	22.56	-
		CO	193.54	-
		VOC	49.38	-
		H ₂ S	6.78	-
		TRS	37.52	-
		H ₂ SO ₄	29.42	-
FLARENEW	New Flare – High Flow Operations (5)	SO ₂	3,065.51	-
		NOx	22.56	-
		CO	193.54	-
		VOC	70.32	-
		H ₂ S	24.08	-
		TRS	92.52	-
		H ₂ SO ₄	29.18	-
FLARENEW	Annual Flare Emissions Cap (6)	SO ₂	-	450.17
		NOx	-	8.67
		CO	-	74.37
		VOC	-	6.47
		H ₂ S	-	2.82
		TRS	-	8.68
		H ₂ SO ₄	-	31.56

Emission Sources - Maximum Allowable Emission Rates

H-645/H-646	Sulfur Heater 645 & Methane Heater 646 (7)	PM	0.12	0.51
		PM ₁₀	0.12	0.51
		PM _{2.5}	0.12	0.51
		SO ₂	0.01	0.04
		NO _x	0.62	2.73
		CO	0.63	2.74
		VOC	0.08	0.37
S-1	Sulfur Storage Tank	SO ₂	0.02	0.02
		H ₂ S	0.03	0.02
		TRS	0.03	0.02
S-3	Sulfur Truck	SO ₂	0.06	0.06
		H ₂ S	0.02	0.02
		TRS	0.02	0.02
F-1	H ₂ S Plant Fugitives (8)	VOC	0.01	0.03
		H ₂ S	< 0.01	0.01
		TRS	0.01	0.03
BMT-1M	Train 1 – MeSH Production Fugitives (8)	VOC	0.19	0.85
		H ₂ S	0.02	0.07
		TRS	0.16	0.72
BMT-2M	Train 2 – MeSH Production Fugitives (8)	VOC	0.06	0.25
		H ₂ S	0.02	0.10
		TRS	0.04	0.17
ACRO-Fug	Acrolein Process Fugitives (8)	VOC	0.35	1.52
		H ₂ S	< 0.01	< 0.01
		TRS	< 0.01	< 0.01
ACRO2-Fug	Acrolein Unit 2 Process Fugitives (8)	VOC	0.35	1.52
		TRS	< 0.01	< 0.01
MMP-Fug	MMP Process Area Fugitives (8)	VOC	0.33	1.45
		TRS	0.16	0.71

Emission Sources - Maximum Allowable Emission Rates

ColumnMain	Acrolein Unit Column/Filter Cleaning	VOC	0.01	0.01
ColumnMain2	New Acrolein Unit Column/Filter Cleaning	VOC	0.01	< 0.01
D307	Methanol Tank	VOC	2.32	0.22
	Methanol Tank (MSS)	VOC (9)	3.08	1.86
D2307	Methanol Tank	VOC	2.32	0.22
	Methanol Tank (MSS)	VOC (9)	3.08	1.86
D398	Gasoline Tank	VOC	4.56	0.22
D215	Diesel Tank	VOC	0.02	0.01
D399	Diesel Tank	VOC	0.02	0.01
D3191A	Diesel Tank	VOC	0.02	0.01
D3191B	Diesel Tank	VOC	0.02	0.01
D8540	Caustic Tank	NaOH	0.01	0.01
FLARE	Flare Limits both routine and MSS operation (5)(10)	CO (8)	193.54	74.35
		H ₂ S	24.08	2.82
		H ₂ SO ₄	7.21	31.57
		H ₂ SO ₄ (14)	29.18	
		NO _x (8)	22.56	8.67
		SO ₂ (8)	625.00	448.96
		SO ₂ (8) (14)	3,065.51	
		TRS	37.52	8.84
		TRS (14)	92.52	
		VOC	49.38	6.63
		VOC (14)	70.32	
H401/H402	Sulfur Heater 401 & Methane Heater 402 (7)	CO	1.32	5.77
		NO _x	1.61	7.04
		PM	0.11	0.52
		PM ₁₀	0.11	0.52
		PM _{2.5}	0.11	0.52
		SO ₂	0.01	0.05

Emission Sources - Maximum Allowable Emission Rates

		VOC	0.09	0.38
H501/H502	Sulfur Heater 501 & Methane Heater 502 (7)	CO	1.32	5.77
		NO _x	1.61	7.04
		PM	0.11	0.52
		PM ₁₀	0.11	0.52
		PM _{2.5}	0.11	0.52
		SO ₂	0.01	0.05
		VOC	0.09	0.38
SULFOX-CT	Sulfox Cooling Tower	PM	0.04	0.18
		PM ₁₀	0.04	0.18
		PM _{2.5}	0.04	0.18
		VOC	0.43	1.89
SULFOX-INH	Bagfilter	PM	0.08	0.01
		PM ₁₀	0.08	0.01
		PM _{2.5}	0.08	0.01
BMT-1E/T	Train 1 – EtSH Production Fugitives (8)	VOC	0.07	0.31
		H ₂ S	< 0.01	0.01
		TRS	< 0.01	0.01
STORAGE	Storage Tanks Fugitives (8)	VOC	0.21	0.93
		TRS	0.18	0.80
SulfoxChlr	Sulfox Chiller System (8)	HCFC	0.01	0.01
H202	Heat Transfer Fluid Heater (31 MMBtu/hr)	CO	2.59	11.32
		NO _x	3.08	13.48
		PM	0.23	1.02
		PM ₁₀	0.23	1.02
		PM _{2.5}	0.23	1.02
		SO ₂	0.02	0.08
		VOC	0.17	0.74
H2202	Heat Transfer Fluid Heater (31 MMBtu/hr)	CO	2.59	11.32

Emission Sources - Maximum Allowable Emission Rates

		NO _x	3.08	13.48
		PM	0.23	1.02
		PM ₁₀	0.23	1.02
		PM _{2.5}	0.23	1.02
		SO ₂	0.02	0.08
		VOC	0.17	0.74
X-426A	Steam Boiler (15.8 MMBtu/hr)	CO	1.33	5.81
		NO _x	2.05	9.00
		PM	0.12	0.53
		PM ₁₀	0.12	0.53
		PM _{2.5}	0.12	0.53
		SO ₂	0.01	0.04
		VOC	0.09	0.38
X-426B	Steam Boiler (15.8 MMBtu/hr)	CO	1.33	5.81
		NO _x	2.05	9.00
		PM	0.12	0.53
		PM ₁₀	0.12	0.53
		PM _{2.5}	0.12	0.53
		SO ₂	0.01	0.04
		VOC	0.09	0.38

- (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)
 - CO - carbon monoxide
 - NO_x - total oxides of nitrogen
 - PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}
 - PM₁₀ - particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}
 - PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
 - SO₂ - sulfur dioxide
 - VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 - NaOH - sodium hydroxide
 - H₂SO₄ - sulfuric acid
 - H₂S - hydrogen sulfide
 - TRS - total reduced sulfur, includes H₂S and sulfur bearing VOC, excludes SO₂
 - HFCH - hydrochlorofluorocarbon
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Allowable Flare short term rate during high flow events, limited to 100 hours per year.

Emission Sources - Maximum Allowable Emission Rates

- (6) Includes operation of the flare as the backup control device for both EPNs SULFUX-TO and EPN SULFOX-TO2 when either is not operating and 416 hours per calendar year for EPN INCIN when it is not operating.
- (7) Common exhaust stack.
- (8) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (9) Planned startup, shutdown and maintenance activity emissions.
- (10) Includes operation of the flare as the backup control device for EPN SULFUX-TO when it is not operating and 416 hours per calendar year for EPN INCIN when it is not operating.

Date: March 15, 2019