

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Numbers 865A and PSDTX1016M1

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. **(5/10)**

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
ColumnMain	Acrolein Unit Column/Filter Cleaning	VOC	0.01	0.01
D215	Diesel Tank D-215	VOC	0.02	0.01
D307	Methanol Tank D-307	VOC	2.32	0.22
D-307	Methanol Tank D-307 (SSM)	VOC	3.08	1.86
D398	Gasoline Tank D-398	VOC	4.56	0.22
D399	Diesel Tank D-399	VOC	0.02	0.01
D2307	Methanol Tank D-2307	VOC	2.32	0.22
D2307	Methanol Tank D-2307 (SSM)	VOC	3.08	1.86
D3191A	Diesel Tank 3191A	VOC	0.02	0.01
D3191B	Diesel Tank 3191B	VOC	0.02	0.01
D8540	Caustic Tank	NaOH	0.01	0.01
Flare	Flare (5) (9) Steady State Operation	CO (8)	629.45	81.93
		H ₂ S	13.42	5.98
		NO _x (8)	73.40	9.56
		SO ₂ (8)	3576.03	386.56
		TRS	54.26	11.11
		VOC	41.26	5.83
		H ₂ SO ₄	61.08	32.29

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
Flare	Flare Startup, Shutdown, and Maintenance (SSM)	CO (8)	629.45	81.93
		H ₂ S	67.74	1.43
		NO _x (8)	73.40	9.56
		SO ₂ (8)	8779.58	176.33
		TRS	188.71	4.01
		VOC	124.31	3.21
	Total Hourly and Annual Emissions from Steady State and SSM (10)	CO (8)	629.45	81.93
		H ₂ S	81.16	7.41
		NO _x (8)	73.40	9.56
		SO ₂ (8)	12355.61	562.89
		TRS	242.98	15.11
		VOC	165.57	9.04
		H ₂ SO ₄	61.08	32.29
H202	Heat Transfer Fluid Heater (31 MMBtu/hr)	CO	2.59	11.32
		NO _x	3.08	13.48
		PM ₁₀	0.23	1.02
		SO ₂	0.02	0.08
		VOC	0.17	0.74
H401/H402	Sulfur Heater/Methane Heater (7)	CO	1.32	5.77
		NO _x	1.61	7.04
		PM ₁₀	0.11	0.52
		SO ₂	0.01	0.05
		VOC	0.09	0.38
H501/H502	Sulfur Heater/Methane (7)	CO	1.32	5.77
		NO _x	1.61	7.04
		PM ₁₀	0.11	0.52
		SO ₂	0.01	0.05
		VOC	0.09	0.38
H2202	Heat Transfer Fluid Heater (31 MMBtu/hr)	CO	2.59	11.32
		NO _x	3.08	13.48
		PM ₁₀	0.23	1.02
		SO ₂	0.02	0.08
		VOC	0.17	0.74

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
INCIN	Incinerator	CO	2.03	8.90
		H ₂ S	0.10	0.42
		NO _x	1.57	6.87
		PM ₁₀	0.89	3.90
		SO ₂	139.00	84.66
		VOC	0.37	1.61
		TRS	0.36	1.56
S-1	Sulfur Storage Tank	H ₂ S	0.23	1.00
		SO ₂	0.86	3.75
		TRS	0.23	1.00
S-2	Sulfur Pit	H ₂ S	0.04	0.02
		SO ₂	0.17	0.09
		TRS	0.04	0.02
S-3	Sulfur Truck	H ₂ S	0.02	0.01
		SO ₂	0.07	0.04
		TRS	0.02	0.01
SULFOX-CT	Sulfox Cooling Tower	PM ₁₀	0.04	0.18
		VOC	0.43	1.89
SULFOX-INH	Bagfilter	PM ₁₀	0.08	0.01
SULFOX-TO	Thermal Oxidizer Steady State Service	CO (8)	31.33	64.51
		NO _x (8)	15.13	66.27
		PM ₁₀	5.71	25.01
		SO ₂ (8)	20.65	11.30
		TRS	0.02	0.01
		VOC	6.23	15.00
	Thermal Oxidizer SSM	CO (8)	31.33	64.51
		NO _x (8)	15.13	66.27
		PM ₁₀	5.71	25.01
		SO ₂ (8)	1156.47	1.55
		TRS	0.02	0.01
		VOC	6.23	15.00
	Total Hourly and Annual	CO (8)	31.33	64.51

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
	Emissions from Steady State and SSM (10)	NO _x (8)	15.13	66.27
		PM ₁₀	5.71	25.01
		SO ₂ (8)	1177.12	12.85
		TRS	0.02	0.01
		VOC	6.23	15.00
WWTP	Wastewater Treatment Plant	H ₂ S	0.05	0.20
		VOC	0.12	0.50
X-426A	Steam Boiler (15.8 MMBtu/hr)	CO	1.33	5.81
		NO _x	2.05	9.00
		PM ₁₀	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 ₁₀	0.12	0.53
		SO ₂	0.01	0.04
		VOC	0.09	0.38
ACRO-Fug	Acrolein Process Fugitives (4)	VOC	0.19	0.85
ACRO-TksFug	Acrolein Storage Tanks Fugitives (4)	VOC	0.01	0.05
ACRO-WWFug	Acrolein Wastewater Fugitives (4)	VOC	0.01	0.01
BMT-1E/T	Fugitives (4) (6) Train 1 - EtSH or TBM Production	H ₂ S	0.01	0.01
		TRS	0.01	0.01
		VOC	0.30	0.07
BMT-1M	Fugitives (4) (6) Train 1 - MeSH Production	H ₂ S	0.01	0.04
		TRS	0.02	0.07
		VOC	0.05	0.22
BMT-2M	Fugitives (4) Train 2 - MeSH Production	H ₂ S	0.01	0.05
		TRS	0.02	0.09

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			lb/hr	TPY**
		VOC	0.08	0.33
DMDS	Dimethyl Disulfide Area Process Fugitives (4)	TRS	0.06	0.24
		VOC	0.06	0.24
DMS	Dimethyl Sulfide Area Process Fugitives (4)	TRS	0.02	0.10
		VOC	0.02	0.10
DMS Retro-Fug	DMS Retrofit Process Fugitives	VOC	0.01	0.01
		H ₂ S	0.01	0.01
		TRS	0.01	0.02
F-1	H ₂ S Plant Process Fugitives (4)	H ₂ S	0.01	0.01
		TRS	0.01	0.01
		VOC	0.01	0.01
FlareFug	Flare Area Fugitives (4)	VOC	0.01	0.01
Fug-Incin	Incinerator Process Fugitives (4)	H ₂ S	0.01	0.01
		VOC	0.01	0.01
MMP-Fug	MMP Process Area Fugitives (4)	VOC	0.01	0.06
MMPRC-Fug	MMP Railcar Loading Area Process Fugitives (4)	VOC	0.04	0.15
MMPtkS-Fug	MMP Storage Area Process Fugitives (4)	VOC	0.01	0.02
PR-Tower	Product Recovery Tower Fugitives (4)	H ₂ S	0.01	0.01
		TRS	0.01	0.01
		VOC	0.02	0.10
RCSHIP	Fugitives Railcar Loading/Unloading (4)	TRS	0.03	0.11
		VOC	0.03	0.11
RUNDOWN	Rundown Tank Fugitives (4)	H ₂ S	0.01	0.01
		TRS	0.11	0.46
		VOC	0.11	0.46

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STORAGE	Fugitives Storage Tanks (4)	TRS	0.15	0.64
		VOC	0.16	0.69
SulfoxChlr	Sulfox Chiller System (4)	HCFC	0.01	0.01
SWS	Fugitives Sour Water Strippers (4)	H ₂ S	0.01	0.01
		TRS	0.01	0.01
		VOC	0.01	0.01
TO-Fug	Thermal Oxidizer Process Fugitives (4)	VOC	0.01	0.01
TTSHIP	Fugitives Tank Truck Loading/Unloading (4)	TRS	0.03	0.11
		VOC	0.03	0.11

- (1) Emission point identification - either specific equipment designation or emission point number (EPN) from a plot plan.
- (2) Specific point source names. 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
NaOH - sodium hydroxide
H₂SO₄ - sulfuric acid
CO - carbon monoxide
H₂S - hydrogen sulfide
NO_x - total oxides of nitrogen
SO₂ - sulfur dioxide
TRS - total reduced sulfur. Includes H₂S and sulfur bearing VOC. Excludes SO₂
PM₁₀ - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
HCFC - hydrochlorofluorocarbons
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) Steady state operation.

- (6) The BMT-1 Unit can produce either MeSH, EtSH, or TBM. Therefore, emissions from BMT-1M and BMT-1E/T do not occur simultaneously.
- (7) Common exhaust stack.
- (8) The PSDTX1016 pollutant.
- (9) The 416 hours per calendar year operation as the backup control device for EPN Sulfox-TO when it is not operating and 416 hours per calendar year for EPN INCIN when it is not operating.
- (10) The total of the steady state, SSM emissions are not enforceable emission limits. The total is done to clarify the total emission rates from both methods of operation.

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

24 Hrs/day 7 Days/week 52 Weeks/year

** Compliance with annual emission limits is based on a rolling 12-month period.

Dated June 8, 2010