

## Emission Sources - Maximum Allowable Emission Rates

Permit Number 137789 and N244

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)
EHTR-B3901	Reactor Furnace B3901	VOC	0.50	1.99
		CO	6.73	13.58
		CO (MSS)	13.46	
		NOX	1.18	4.66
		SO2	0.13	0.52
		PM	0.70	2.75
		PM10	0.70	2.75
		PM2.5	0.70	2.75
EHTR-B3902	Reactor Furnace B3902	VOC	0.52	2.06
		CO	6.98	14.09
		CO (MSS)	13.96	
		NOX	1.22	4.82
		SO2	0.14	0.53
		PM	0.72	2.84
		PM10	0.72	2.84
		PM2.5	0.72	2.84
EHTR-B3903	Reactor Furnace B3903	VOC	0.37	1.45
		CO	4.87	9.84
		CO (MSS)	9.75	
		NOX	0.86	3.38
		SO2	0.10	0.37
		PM	0.51	2.00
		PM10	0.51	2.00
		PM2.5	0.51	2.00

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EHTR-B3904	Reactor Furnace B3904	VOC	0.19	0.77
		CO	2.60	5.24
		CO (MSS)	5.19	
		NOX	0.46	1.79
		SO2	0.05	0.20
		PM	0.27	1.06
		PM10	0.27	1.06
		PM2.5	0.27	1.06
ETK1911	Storage Tank 1911	VOC	0.23	0.86
ETK1912	Storage Tank 1912	VOC	0.21	0.72
ETK1921	Storage Tank 1921	VOC	0.65	0.58
ETK1931	Storage Tank 1931	VOC	0.86	2.56
EFUGRTBE	Fugitive Emissions (5)	VOC	1.00	4.36
		Acetone	0.07	0.29
ECWTU1809	Cooling Tower	VOC	1.86	4.05
		PM	0.67	2.31
		PM10	0.38	1.32
		PM2.5	<0.01	<0.01
E-B1550	Flare E-B1550 (Routine Operations)	VOC	5.43	22.58
		NOx	1.08	4.58
		CO	5.49	23.45
		Acetone	1.77	6.04
		SO2	(6)	(6)
E-GEN315	Emergency Generator (Ethers Unit)	VOC	0.08	<0.01
		NOx	0.18	0.01
		CO	1.54	0.08
		SO2	<0.01	<0.01
		PM	0.01	<0.01
		PM10	0.01	<0.01
		PM2.5	0.01	<0.01

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E-GEN321	Emergency Generator (Control Room)	VOC	0.13	0.01
		NOx	0.26	0.01
		CO	2.31	0.12
		SO2	<0.01	<0.01
		PM	0.01	<0.01
		PM10	0.01	<0.01
		PM2.5	0.01	<0.01
E-ANLZRVNT	Analyzer Vents	VOC	<0.01	<0.01
E-B 1550MSS	Flare E-B 1550 (Ethers Unit MSS)	VOC	84.70	0.98
		NOx	18.83	0.17
		CO	96.99	0.86
		Acetone	51.52	0.07
		SO2	(6)	(6)
MSSFUG	MSS Emissions to Atmosphere	VOC	51.89	2.37
		PM	0.02	<0.01
		PM10	0.02	<0.01
		PM2.5	0.02	<0.01
MSSCTRL	Controlled MSS Emissions	VOC	0.11	0.01
		NOx	0.86	0.04
		CO	1.30	0.06
		SO2	0.01	<0.01
		PM	0.06	<0.01
		PM10	0.06	<0.01
		PM2.5	0.06	<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, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented

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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

- (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) Emissions of SO<sub>2</sub> from this flare are separately permitted in NSR Permit No. 9395; none are attributable to the sources authorized by this permit and controlled by this flare.

Date: June 7, 2017