

# Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 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)
Routine Operations				
EHTR-B3901	Reactor Furnace B3901 (6)	VOC	0.42	1.66
		CO	5.63	11.36
		CO (MSS)	11.26	
		NO <sub>x</sub>	0.99	3.89
		SO <sub>2</sub>	1.09	0.43
		PM	0.58	2.29
		PM <sub>10</sub>	0.58	2.29
		PM <sub>2.5</sub>	0.58	2.29
EHTR-B3902	Reactor Furnace B3902 (6)	VOC	0.42	1.66
		CO	5.63	11.36
		CO (MSS)	11.26	
		NO <sub>x</sub>	0.99	3.89
		SO <sub>2</sub>	1.09	0.43
		PM	0.58	2.29
		PM <sub>10</sub>	0.58	2.29
		PM <sub>2.5</sub>	0.58	2.29
EHTR-B3903	Reactor Furnace B3903 (6)	VOC	0.32	1.25
		CO	4.21	8.51
		CO (MSS)	8.43	
		NO <sub>x</sub>	0.74	2.92
		SO <sub>2</sub>	0.82	0.32
		PM	0.44	1.73
		PM <sub>10</sub>	0.44	1.73
		PM <sub>2.5</sub>	0.44	1.73

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EHTR-B3904	Reactor Furnace B3904 (6)	VOC	0.21	0.83
		CO	2.80	5.65
		CO (MSS)	5.60	
		NO <sub>x</sub>	0.50	1.95
		SO <sub>2</sub>	0.55	0.22
		PM	0.29	1.15
		PM <sub>10</sub>	0.29	1.15
		PM <sub>2.5</sub>	0.29	1.15
ETK1912	Storage Tank 1912	VOC	0.20	0.65
ETK1921	Storage Tank 1921	VOC	0.84	1.19
ETK1931	Storage Tank 1931	VOC	0.83	2.63
EFUGRTBE	Fugitive Emissions (5)	VOC	0.88	3.85
		CO	0.12	0.54
		Acetone	0.04	0.17
ECWTU1809	Cooling Tower	VOC	2.14	4.69
		PM	0.77	2.68
		PM <sub>10</sub>	0.44	1.53
		PM <sub>2.5</sub>	<0.01	<0.01
E-B1550	Flare E-B1550 (Routine Operations) (8)	VOC	10.12	27.43
		NO <sub>x</sub>	1.26	4.55
		CO	6.43	23.20
		Acetone	2.01	5.48
		SO <sub>2</sub>	0.26	1.14
E-B1550	Flare E-B1550 (Routine Operations) (7)	VOC	10.12	-
		NO <sub>x</sub>	1.26	-
		CO	6.43	-
		Acetone	2.01	-
		SO <sub>2</sub>	0.26	-

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E-B1501A	Emergency Flare B1501A (Ethers Unit Process) (7)	VOC	10.12	-
		NO <sub>x</sub>	1.26	-
		CO	6.43	-
		Acetone	2.01	-
		SO <sub>2</sub>	0.26	-
E-FLRCAPRT	Ethers Unit 1 Routine Flare Emissions Cap (7)	VOC	-	27.43
		NO <sub>x</sub>	-	4.55
		CO	-	23.20
		Acetone	-	5.48
		SO <sub>2</sub>	-	1.14
EMG-3902	Emergency Generator (Ethers Unit)	VOC	0.08	<0.01
		NO <sub>x</sub>	0.18	0.01
		CO	1.54	0.08
		SO <sub>2</sub>	0.55	0.03
		PM	0.01	<0.01
		PM <sub>10</sub>	0.01	<0.01
		PM <sub>2.5</sub>	0.01	<0.01
EMG-3901	Emergency Generator (Control Room)	VOC	0.13	0.01
		NO <sub>x</sub>	0.26	0.01
		CO	2.31	0.12
		SO <sub>2</sub>	0.82	0.04
		PM	0.01	<0.01
		PM <sub>10</sub>	0.01	<0.01
		PM <sub>2.5</sub>	0.01	<0.01
E-ANLZRVNT	Analyzer Vents	VOC	<0.01	<0.01
E-B1501A	Emergency Flare B1501A (Ethers Unit Process) (8)	VOC	5.49	0.66
		NO <sub>x</sub>	1.06	0.13
		CO	5.39	0.65
		Acetone	1.20	0.14
Planned Maintenance, Startup and Shutdown (MSS)				
E-B1550MSS	Flare E-B1550 (Ethers Unit MSS)	VOC	261.15	-
		NO <sub>x</sub>	46.73	-

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E-B1501AMSS	Flare E-B1501A (Ethers Unit MSS) (7)	CO	240.71	-
		Acetone	51.52	-
		SO <sub>2</sub>	5.91	-
		VOC	261.15	-
		NO <sub>x</sub>	46.73	-
E-FLRCAPMSS	Flare Cap (Ethers Unit MSS)	CO	240.71	-
		Acetone	51.52	-
		SO <sub>2</sub>	5.91	-
		VOC	-	1.12
		NO <sub>x</sub>	-	0.18
MSSFUG	MSS Emissions to Atmosphere	CO	-	0.90
		Acetone	-	0.07
		SO <sub>2</sub>	-	0.02
		VOC	102.27	2.39
		PM	0.03	<0.01
MSSCTRL	Controlled MSS Emissions	PM <sub>10</sub>	0.03	<0.01
		PM <sub>2.5</sub>	0.03	<0.01
		VOC	0.11	0.01
		NO <sub>x</sub>	0.86	0.04
		CO	1.30	0.06
		SO <sub>2</sub>	0.01	<0.01
		PM	0.06	<0.01
		PM <sub>10</sub>	0.06	<0.01
		PM <sub>2.5</sub>	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
- 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.

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- (6) MSS emissions of pollutants other than CO from Reactor Furnaces B3901 through B3904 are estimated to be at or below the routine hourly emission rate. The MSS annual emissions of all authorized pollutants are included in the routine operation annual emissions.
- (7) Flare emissions authorized after the Emergency Flare B1501A (Ethers Unit Process) (EPN E-B1501A) has been modified to steam assisted.
- (8) Flare emissions authorized prior to the Emergency Flare B1501A (Ethers Unit Process) (EPN E-B1501A) being modified to steam assisted.

Date: August 31, 2023