

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 1829

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)
U-5A	Initiator Mixing Tank	VOC	6.42	0.24
U-5B	Initiator Mixing Tank	VOC	2.92	0.15
U-6A	Initiator Mixing Tank	VOC	6.42	0.20
U-6B	Initiator Mixing Tank	VOC	2.92	0.14
U-8A	Initiator Mixing Tank	VOC	2.92	0.14
U-8B	Initiator Mixing Tank	VOC	2.92	0.14
U-515	Initiator Mixing Tank	VOC	2.92	0.15
U-201	IPA Recovery Pot	VOC	1.06	0.01
U-19A	Catalyst Pump Mix Chamber and Flash Recovery Storage Tank Vent	VOC	1.13	<0.01
U-19B	Catalyst Pump Mix Chamber and Flash Recovery Storage Tank Vent	VOC	1.13	<0.01
U-19C	Catalyst Pump Mix Chamber and Flash Recovery Storage Tank Vent	VOC	0.51	<0.01
U-19D	Catalyst Pump Mix Chamber and Flash Recovery Storage Tank Vent	VOC	0.51	<0.01
U-19E	Catalyst Pump Mix Chamber and Flash Recovery Storage Tank Vent	VOC	0.51	<0.01
U-19F	Catalyst Pump Mix Chamber and Flash Recovery Storage Tank Vent	VOC	0.51	<0.01
U-21	Feed Tank	VOC	0.04	<0.01
U-3	IPA Tank/VA Recovery Tank	VOC	1.95	0.01
EP-5	Oxidizer Vent Wet Scrubber (7)	VOC	0.00	0.00
		PM	0.00	0.00
		PM <sub>10</sub>	0.00	0.00

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EP-5 VC	Oxidizer – Vapor Combustor	CO	0.33	1.44
		NO <sub>x</sub>	0.39	1.72
		SO <sub>2</sub>	<0.01	0.01
		VOC	0.66	2.90
		PM	0.06	0.24
		PM <sub>10</sub>	0.06	0.24
		PM <sub>2.5</sub>	0.06	0.24
F-EP-9	Piping Fugitives (5)	VOC	15.02	65.78
EP-10	Flare M-1 (limits after EPN-11 Flare M-2 is placed into operation)	CO	97.64 (14.18)	2.18 (28.30)
		NO <sub>x</sub>	13.52 (1.65)	0.30 (3.30)
		SO <sub>2</sub>	0.01	0.01(0.02)
		VOC	135.00 (4.54)	2.93 (9.05)
	Flare M-1 - MSS Emissions (limits after EPN-11 Flare M-2 is placed into operation)	NO <sub>x</sub>	7.37 (0.08)	0.19 (<0.01)
		CO	53.22 (0.68)	1.40 (0.01)
		SO <sub>2</sub>	(<0.01)	(<0.01)
		VOC	79.9 (2.73)	1.49 (<0.01)
EP-11	Flare M-2	CO	21.70	7.19
		NO <sub>x</sub>	10.89	3.71
		SO <sub>2</sub>	<0.01	<0.01
		VOC	35.90	11.54
	Flare M-2 - MSS Emissions	NO <sub>x</sub>	24.41	0.58
		CO	48.74	1.15
		SO <sub>2</sub>	<0.01	<0.01
		VOC	59.10	1.34
EP-22	T-1 Priller Scrubber Vent	VOC	0.03	0.12
		PM	0.19	0.84

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		PM <sub>10</sub>	0.19	0.84
		PM <sub>2.5</sub>	0.19	0.84
EP-23	T-2 Priller Scrubber Vent	VOC	0.03	0.13
		PM	0.08	0.34
		PM <sub>10</sub>	0.08	0.34
		PM <sub>2.5</sub>	0.08	0.34
EP-24	T-3 Priller Scrubber Vent	VOC	0.03	0.13
		PM	0.19	0.84
		PM <sub>10</sub>	0.19	0.84
		PM <sub>2.5</sub>	0.19	0.84
EP-35	Binary Distillation T-563 and U-564 Reflux Drum Vent	VOC	0.24	0.60
EP-36	Binary Distillation T-363 and U-364 Reflux Drum Vent	VOC	0.21	0.57
EP-39	Wastewater System	VOC	1.28	2.71
EP-28/40	Atomizer Baghouse	PM	1.34	2.35
		PM <sub>10</sub>	1.34	2.35
		PM <sub>2.5</sub>	1.34	2.35
EP-41	Water Scrubber (limits after EPN-11 Flare M-2 is first placed into operation)	VOC	2.24 (3.51)	0.12 (0.05)
	Water Scrubber MSS Emissions (limits after EPN-11 Flare M-2 is first placed into operation)	VOC	4.51 (2.41)	<0.01
EP-43	Baghouse (Silos and Airlock Hoppers for U-36 and U-37)	PM	0.15	0.67
		PM <sub>10</sub>	0.15	0.67
		PM <sub>2.5</sub>	0.15	0.67
EP-44A	Baghouse (Silos and Airlock Hoppers for U-72s, U-12s, U-S1, and U-S2)	PM	0.09	0.38
		PM <sub>10</sub>	0.09	0.38
		PM <sub>2.5</sub>	0.09	0.38

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EP-45	3 <sup>rd</sup> Distillation Feed Tank	VOC	0.48	0.20
EP-46	3 <sup>rd</sup> Distillation Process Vent	VOC	0.09	0.13
EP-47	3 <sup>rd</sup> Distillation Boiler	VOC	0.03	0.14
		NO <sub>x</sub>	0.29	1.29
		CO	0.49	2.16
		SO <sub>2</sub>	<0.01	0.02
		PM	0.04	0.20
		PM <sub>10</sub>	0.04	0.20
		PM <sub>2.5</sub>	0.04	0.20
PRPP	Pilot Plant Reactor R-905 Scrubber (Emission Point to be removed once EPN-11 Flare M-2 is placed into operation)	VOC	2.06 (0.00)	9.01 (0.00)
PRPP-1	Pilot Plant Reactor R-960 Scrubber (Emission Point to be removed once EPN-11 Flare M-2 is placed into operation)	VOC	2.06 (0.00)	5.12 (0.00)
PRPPPAST	Pastillator	VOC	0.18	0.33
PRPPDRUM	Drumming	VOC	0.18	0.16
U-33	Vinyl Acetate Tank (Emission Point to be removed once EPN-11 Flare M-2 is placed into operation)	VOC	0.68 (0.00)	0.36 (0.00)
U-55	GC Tank	VOC	<0.01	<0.01
U-107	Solvent Tank	VOC	1.16	0.07
U-114	Solvent Tank	VOC	0.16	<0.01
U-910	Feed Tank	VOC	<0.01	<0.01
U-914	Catalyst Tank	VOC	0.80	<0.01
U-967	Catalyst Tank	VOC	0.14	<0.01
CTWR	Cooling Tower	VOC	0.19	0.83
		PM	0.09	0.39
		PM <sub>10</sub>	0.01	0.06

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		PM <sub>2.5</sub>	0.01	0.06
BLOWDOWNS	Blowdowns	VOC	16.46	2.86
FLRDRUM	Loading of Flare Knockout Drum	VOC	0.02	<0.01
SAMPLING	Sampling	VOC	0.76	0.76
MSS	MSS (6)	VOC	18.27	0.42
		PM	0.73	0.27
		PM <sub>10</sub>	0.54	0.27
		PM <sub>2.5</sub>	0.21	0.14

- (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.
- (6) This EPN covers atmospheric maintenance, startup, and shutdown (MSS) emissions from the MSS activities listed in Attachments A through C of the permit.
- (7) The Wet Scrubber EPN EP-5 is for emergency use only.

Date: December 20, 2017