Emission Sources - Maximum Allowable Emission Rates

Permit Number 2925

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)
TF-01	Step I-Flare Stack	VOC	2.46	10.45
		NO_x	1.43	3.77
		CO	7.31	19.23
		SO_2	0.42	1.31
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		PM	0.01	0.01
		H_2S	0.01	0.01
TF-05	Hydrogenation and Step II Degasser Vent	VOC	2.90	1.13
TF-07	Concentrator Column Vent	VOC	0.30	1.31
TF-08	Reactor/Refining Train Vent	VOC	0.32	1.41
TF-09	THF Tank Farm Vent - Normal	VOC	31.18	4.48
	THF Tank Farm Vent - MSS	VOC	6.94	0.17
TF-11	Crude BYD Storage Tank – Normal	VOC	5.12	1.98
	Crude BYD Storage Tank – MSS	VOC	0.57	0.01
TF-21	Hold Tank Vent(SCRUBBER) – Normal	VOC	3.07	0.45
	Hold Tank Vent(SCRUBBER) – MSS	VOC	0.47	0.01
TF-22	Refined BYD Storage (6)	VOC	0.38	0.05
TF-23A	Crude BDO Tank A	VOC	1.38	0.25

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TF-23B	Refined BDO Tank B	VOC	0.23	0.01
TF-23C	Refined BDO Tank C	VOC	0.29	0.01
TF-23D	Refined BDO Tank D	VOC	0.29	0.01
TF-23E	Desalted BDO Tank E	VOC	0.14	0.04
TF-23F	Concentrated BDO Tank F	VOC	0.12	0.03
TF-25	BDO Refining Vent	VOC	0.08	0.33
TF-26	THF Fugitives (5)	VOC	3.70	16.21
		IOC-U	0.01	0.01
		CO	0.01	0.01
TF-26L	Tank Truck Loading	PM	< 0.01	< 0.01
		PM_{10}	< 0.01	< 0.01
		$PM_{2.5}$	< 0.01	< 0.01
		VOC	2.57	0.79
TF-RL	Railcar Loading	VOC	4.30	
TF-24L	24 Hour Tank Truck Loading (TF-07L)	VOC	1.73	
TF-27	Wastewater Ponds	VOC	5.97	22.30
TF-28[7]	TF-17T / THF Tank / C-shipping Tank	VOC	0.40	0.98
TF-29	Cooling Tower	VOC	0.63	2.76
		PM	2.30	7.71
		PM_{10}	1.67	5.60
		$PM_{2.5}$	0.01	0.02
TF-30	Tank TF-30T Butanol Tank vent (SCRUBBER) - Normal	VOC	0.02	0.01
	Tank TF-30T Butanol Tank vent (SCRUBBER) – MSS	VOC	0.01	<0.01
TF-51	Intermediates Storage No. 1	VOC	0.15	<0.01
TF-52	Intermediates Storage No. 2	VOC	0.15	<0.01

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TF-53	Intermediates Storage No. 3	VOC	0.15	0.01
TF-54	Intermediates Storage No. 4	VOC	0.15	<0.01
TF-AP1	BHT Addition Pot 1	PM	< 0.01	< 0.01
		PM_{10}	< 0.01	< 0.01
		$PM_{2.5}$	< 0.01	< 0.01
TF-AP2	BHT Addition Pot 2	PM	< 0.01	< 0.01
		PM_{10}	< 0.01	< 0.01
		$PM_{2.5}$	< 0.01	< 0.01
TF-APV	Ventilation Stack	PM	< 0.01	< 0.01
		PM_{10}	< 0.01	< 0.01
		$PM_{2.5}$	< 0.01	< 0.01
TF-CTC1	Bleach Storage Tote	IOC-U	< 0.01	< 0.01
TF-CTC2	CL40 Storage Tote	IOC-U	< 0.01	< 0.01
TF-CTC3	CL4898 Storage Tote	VOC	< 0.01	< 0.01
		IOC-U	< 0.01	< 0.01
TF-CTC4	CL9100 Storage Tote	VOC	< 0.01	< 0.01
TF-TKBRINE	Ethylene Glycol Tank	VOC	0.01	0.01
TF-Diesel	Diesel Tank	VOC	0.03	0.01
TF-TKAAT	Aldrich Accumulation Tank	VOC	0.01	0.01
TF-TKFST	Formaldehyde Fume Scrubber Tank	VOC	0.05	0.01
TF-TKSAT	Step 1 Sample Tank	VOC	0.01	0.01
TF-PND	Purge neutralization drum	VOC	1.57	1.10
TF-CAUSTIC	Caustic Tank	NaOH	0.01	0.01
		PM	0.04	<0.01
		PM_{10}	0.02	<0.01
		$PM_{2.5}$	<0.01	0.01
MSS Activities				
THF-MSS ATM	THF MSS Emissions to Atmosphere – C	VOC	9.87	0.70

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		NO_x	0.01	0.19
		CO	0.10	<0.01
		SO_2	<0.01	<0.01
		PM_{10}	1.40	0.04
		$PM_{2.5}$	0.18	<0.01
		PM	2.49	0.08
		Ammonia	20.47	0.25
		Sodium Bicarbonate	0.01	0.01
		Sodium Hydroxide	0.01	0.01
		Sulfuric acid	0.01	0.01
	THF MSS Emissions to Atmosphere – C shipping Floating Roof Tank	VOC	12.54	1.06
		NO_x	0.25	0.19
		CO	2.17	<0.01
		SO_2	<0.01	<0.01
		Ammonia	20.47	0.25
		Sodium Bicarbonate	0.01	0.01
		Sodium Hydroxide	0.01	0.01
		Sulfuric Acid	0.01	0.01
		PM_{10}	1.40	0.04
		$PM_{2.5}$	0.18	<0.01
		PM	2.49	0.08
TF-01 MSS	Flare Stack-MSS	VOC	15.25	0.57
		Sodium Formate	<0.01	<0.01
		Phosphine	<0.01	<0.01
		Arsine	<0.01	<0.01
		Sulfur	<0.01	<0.01

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		H_2S	<0.01	<0.01
		NO_x	2.18	0.07
		CO	11.12	0.36
		SO_2	0.14	<0.01
THF-MSS TANK CD	THF MSS Tank Related Emissions at Control Device	VOC	2.90	0.01
		NO_x	0.17	0.01
		CO	1.46	0.01
TF-21 MSS	Hold Tank Vent - MSS	VOC	0.01	0.06

(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
IOC-U - inorganic compounds (unspeciated)
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
H_2S - hydrogen sulfide
NaOH - sodium hydroxide

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(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) Total hourly maximum fill rates and annual throughput cumulative for Tanks TF-02T, TF-04T and TF-05T shall not exceed 36,000 gallons per hour and 51,249,000 gallons per year.
(7) EPN TF-28 floating roof tank will be converted to fixed roof tank (EPN: TF-09; FIN TF-17T). EPN TF-28 and associated MSS emissions will remain in the MAERT until C-shipping fixed roof tank (FIN: TF-17T) is routed to the tank farm scrubber (EPN: TF-09).

Date: **January 24, 2019**