Emission Sources - Maximum Allowable Emission Rates

Permit Number 19797

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)
A	Main Flare	NO_X	1.61	1.05
		CO	13.78	8.98
		Other VOC (7)	1.41	3.63
		$MeCl_2$	0.01	0.01
		VOC (6)	1.42	3.64
		SO_2	0.01	0.01
		HCl	0.11	0.49
		Acetone	0.36	0.91
C	Acetylene Flare	NO_X	1.29	1.21
		CO	9.82	5.01
		SO_2	0.01	0.01
		VOC	0.79	0.35
		Acetylene (6)	0.73	0.30
		NH_3	0.29	1.25
H	Scrubber	VOC	0.04	0.17
		HCl	0.09	0.03
P1	TPP Venturi Filter	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
P2	Lindlar Catalyst Scrubber	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
P4	Crystal wash Tower Scrubber	PM	0.01	0.01
		PM_{10}	0.01	0.01

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		$PM_{2.5}$	0.01	0.01
P5	C10 Filter	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
TF1	$MeCl_2$ Tank Adsorber	$MeCl_2$	0.18	0.01
TF2	Toluene Tank	VOC	5.51	0.02
TF3	Potassium Hydroxide Tank	KOH	0.01	0.01
TF4	HCl Tank Scrubber	HCl	0.82	0.02
TF5	Acetic Acid Tank Scrubber	VOC	0.16	0.03
TF6	Beta Ionone Tank	VOC	0.01	0.01
TF7	Hexane Tank	VOC	63.26	0.09
TF8	Methanol Tank	VOC	8.74	0.14
TF9	Solvent Waste Tank	Other VOC (7)	8.53	0.18
		$MeCl_2$	16.31	0.95
		VOC (6)	24.84	1.13
		Acetone	17.38	0.37
TF10	Phosphorous Waste Tank	Other VOC (7)	9.70	0.46
		$MeCl_2$	18.22	0.45
		VOC (6)	27.92	0.91
		Acetone	8.67	0.42
TF13	Sodium Hydroxide Tank	NaOH	0.01	0.01
TF15	Sulfuric Acid Tank	H_2SO_4	0.01	0.01
FUG-BETA	Process Fugitives (5)	Other VOC (7)	1.16	5.07
		$MeCl_2$	0.16	0.68
		VOC (6)	1.32	5.75
		NH_3	0.06	0.27
		Acetone	0.27	1.18
WWTP-01	Wastewater Treatment Plant	Other VOC (7)	1.75	1.21

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		$MeCl_2$	9.33	6.14
		VOC (6)	11.08	7.35
		Acetone	0.01	0.01
B-1	Plant Boiler	NO_X	1.30	5.71
		CO	1.33	5.84
		CO(MSS)	8.73	0.07
		VOC	0.17	0.73
		SO_2	0.02	0.08
		PM	0.23	1.01
		PM_{10}	0.23	1.01
		$PM_{2.5}$	0.23	1.01
A-MSS	Vessel Degassing and Cleaning to Main Flare	NO_X	1.76	1.05
		CO	15.09	8.98
		Other VOC (7)	4.41	0.01
		$MeCl_2$	0.03	0.01
		VOC (6)	4.44	0.02
		SO_2	0.01	0.01
		HCl	1.13	0.99
		Acetone	9.13	0.01
T-9110-MSS	$MeCl_2$ Tank Opening	$MeCl_2$	2.60	0.01
T-9104-MSS	Potassium Hydroxide Tank Opening	KOH	0.01	0.01
T-9108-MSS	HCl Tank Opening	HCl	0.62	0.01
T-9103-MSS	Acetic Acid Tank Opening	VOC	0.09	0.01
T-9102-MSS	Methanol Tank Opening	VOC	0.22	0.01
T-9111-MSS	Acetone Tank Opening	Acetone	0.90	0.01
T-9106-MSS	Solvent Waste Tank Opening	Other VOC (7)	0.52	0.01
		$MeCl_2$	0.06	0.01
		VOC (6)	0.58	0.02

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		Acetone	0.57	0.01
T-9105-MSS	Phosphorous Waste Tank Opening	Other VOC (7)	0.72	0.01
		$MeCl_2$	0.32	0.01
		VOC (6)	1.04	0.02
		Acetone	0.24	0.01
T-9101-MSS	Hexane Tank Opening	VOC	1.10	0.01
T-9100-MSS	Beta-Ionone Opening	VOC	0.01	0.01
T-9107-MSS	Toluene Tank Opening	VOC	0.27	0.01
T-9112-MSS	Sulfuric Acid Tank Opening	H_2SO_4	0.01	0.01
T-9113-MSS	Sodium Hydroxide Tank Opening	NaOH	0.01	0.01
FUG-MSS	Fugitives	Other VOC (7)	18.96	1.06
		$MeCl_2$	16.19	0.21
		VOC	35.15	1.27
		NH_3	0.49	0.03
		Acetone	27.74	0.21
		HCl	3.25	0.01
		Inorganics	0.01	0.02
FUG-MSSPB	Fugitives-MSS from process area	Other VOC (7)	0.26	<0.01
		$MeCl_2$	0.84	<0.01
		VOC (6)	1.1	<0.01
		Acetone	0.15	<0.01
SITEWIDE	Various	Individual HAP	-	<10.00
		Total HAPs	-	<25.00

(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_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

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CO	-	carbon monoxide
HAP	-	hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
H_2SO_4	-	sulfuric acid
HCl	-	hydrogen chloride
KOH	-	potassium hydroxide
$MeCl_2$	-	methylene chloride
NaOH	-	sodium hydroxide
NH_3	-	ammonia

(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) The Acetylene and $MeCl_2$ emissions are included in the VOC emissions.
(7) The $MeCl_2$ emissions are not included in the Other VOC emissions.

Date: August 29, 2022