

Emission Sources - Maximum Allowable Emission Rates

Permit Number 90163

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)
1	TDU Dryer (32 MMBtu/hr Natural Gas fired)	PM	0.24	1.04
		PM ₁₀	0.24	1.04
		PM _{2.5}	0.24	1.04
		SO ₂	0.02	0.08
		NO _x	3.14	13.74
		CO	2.64	11.54
		VOC	0.17	0.76
		HAP	0.06	0.26
7	TDU Steam Boiler (8 MMBtu/hr Natural Gas fired)	PM	0.06	0.26
		PM ₁₀	0.06	0.26
		PM _{2.5}	0.06	0.26
		SO ₂	<0.01	0.02
		NO _x	0.78	3.44
		CO	0.66	2.89
		VOC	0.04	0.19
		HAP	0.01	0.06
8A	TDU Conveyor	PM	<0.01	0.01
		PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		HAP	<0.01	<0.01
8B	TDU Transfer Points (Desorbed Solids Bin)	PM	0.03	0.06
		PM ₁₀	0.02	0.03
		PM _{2.5}	<0.01	<0.01
		HAP	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

CKD-T1	Truck CKD Offloading - Drop Point	PM	0.01	0.09
		PM ₁₀	<0.01	0.04
		PM _{2.5}	<0.01	<0.01
CKD-T2	Transfer Outdoor CKD to Partially Enclosed CKD Stockpile - Drop Point	PM	<0.01	0.04
		PM ₁₀	<0.01	0.02
		PM _{2.5}	<0.01	<0.01
TM-T1	Truck Clay Offloading - Drop Point	PM	0.08	0.35
		PM ₁₀	0.04	0.17
		PM _{2.5}	<0.01	0.03

Emission Sources - Maximum Allowable Emission Rates

BH/Venturi	TDU Cooling Baghouse/Venturi Scrubber	PM	0.09	0.38
		PM ₁₀	0.09	0.38
		PM _{2.5}	0.09	0.38
		VOC	0.20	0.37
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	<0.01	<0.01
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
		H ₂ S	<0.01	<0.01
		HAP	0.20	0.37 (8)
		HF	<0.01	
		HCl	<0.01	
CT	TDU Cooling Tower	PM	0.10	0.44
		PM ₁₀	0.05	0.22
		PM _{2.5}	<0.01	<0.01
		VOC	0.06 (5)	0.25 (5)
		H ₂ S	<0.01	0.03
		HF	<0.01	0.04
		HCl	0.06	0.24
		NH ₃	0.06	0.25
		HNO ₃	0.05	0.22
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	0.04	0.17
		H ₂ SO ₄	<0.01	<0.01
BOX-1	TDU Centrifuge Cake Rolloff 1	VOC	5.57	0.83
		HAP	1.99	0.02 (8)
		HF	<0.01	
		HCl	0.03	

Emission Sources - Maximum Allowable Emission Rates

		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.15	0.06
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
BOX-1B	TDU Centrifuge Cake Rolloff 1B	VOC	5.57	0.83
		HAP	1.99	0.02 (8)
		HF	<0.01	
		HCl	0.03	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.15	0.06
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
BOX-1C	TDU Centrifuge Cake Rolloff 1C	VOC	5.57	0.83
		HAP	1.99	0.02 (8)
		HF	<0.01	
		HCl	0.03	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.15	0.06
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
BOX-2	TDU Gas Treatment Cake Box	VOC	0.17	0.20
		HAP	0.06	<0.01 (8)
		HF	<0.01	

Emission Sources - Maximum Allowable Emission Rates

		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	<0.01	0.02
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
SHAKER	TDU Shaker Box	VOC	0.22	0.07
		HAP	0.08	<0.01 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	<0.01	<0.01
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
DUTOTE	Tote Tank	VOC	<0.01	<0.01
		HAP	<0.01	<0.01 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	<0.01	<0.01
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01

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BIN-FUG	Feed Bin Fugitives (5)	VOC	6.71	4.28
		HAP	2.40	0.09 (8)
		HF	<0.01	
		HCl	0.03	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.18	0.33
		HNO ₃	<0.01	0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	0.02
FXBIN-FUG	Fixed Bin Fugitives	VOC	4.58	3.07
		HAP	1.64	0.06 (8)
		HF	<0.01	
		HCl	0.02	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.13	0.24
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	0.01
CARBFLT1	Carbon Adsorption System 1	VOC	<0.01	0.07
		HAP	<0.01	0.07 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	<0.01	<0.01
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

		H ₂ O ₂	<0.01	<0.01
CARBFLT2	Carbon Adsorption System 2	VOC	<0.01	0.06
		HAP	<0.01	0.06 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	<0.01	<0.01
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
CARBFLT3	Carbon Adsorption System 3	VOC	7.02	0.13
		HAP	7.02	0.13 (8)
		HF	<0.01	
		HCl	3.23	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.33	<0.01
		HNO ₃	0.44	0.16
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
FUG-TDU	TDU Piping Fugitives (5)	VOC	0.16	0.70
		HAP	0.03	0.14 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.02	0.42
		HNO ₃	<0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	0.17
FUG-DU	DU Piping Fugitives (5)	VOC	0.06	0.25
		HAP	0.02	0.09 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	<0.01	0.15
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	0.06
PROD-LOAD	Reclaimed Oil Product Loadout	VOC	0.36	0.06
		HAP	0.36	0.06 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.05	0.03
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	0.02	0.01
PROD-LOAD2	Distillate Product Loadout	VOC	1.56	0.57
		HAP	<0.01	<0.01
FUG-2	Cement Kiln Dust Stock Pile	PM	0.02	0.09
		PM ₁₀	0.01	0.05
		PM _{2.5}	<0.01	<0.01
FUG-1	Stabilization Building 2 Process Fugitives (5)	PM	0.04	0.21
		PM ₁₀	0.04	0.21

Emission Sources - Maximum Allowable Emission Rates

		PM _{2.5}	<0.01	<0.01
		VOC	2.46	(6)
		HAP	2.46	(7) (8)
		HF	<0.01	
		HCl	0.21	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.18	0.14
		HNO ₃	0.14	0.05
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
BH1	Stabilization Building 2 Baghouse	PM	2.14	4.50
		PM ₁₀	2.14	4.50
		PM _{2.5}	2.14	4.50
		VOC	46.76	(6)
		HAP	46.78	(7) (8)
		HF	<0.01	
		HCl	3.98	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	3.43	2.75
		HNO ₃	2.69	0.96
		H ₃ PO ₄	0.01	0.02
		H ₂ O ₂	0.18	0.14
BH2	Stabilization Building 3 Baghouse	PM	2.14	4.50
		PM ₁₀	2.14	4.50
		PM _{2.5}	2.14	4.50
		VOC	37.30	(6)
		HAP	37.32	(7) (8)

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		HF	<0.01	<0.01
		HCl	2.22	
		H ₂ S	<0.01	
		H ₂ SO ₄	<0.01	
		NH ₃	2.51	
		HNO ₃	2.26	
		H ₃ PO ₄	<0.01	
		H ₂ O ₂	0.15	
BH7	Stabilization Building 3 Baghouse	PM	2.14	4.50
		PM ₁₀	2.14	4.50
		PM _{2.5}	2.14	4.50
		VOC	37.30	(6)
		HAP	37.32	(7) (8)
		HF	<0.01	
		HCl	2.22	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	2.51	2.30
		HNO ₃	2.26	0.80
		H ₃ PO ₄	<0.01	0.01
		H ₂ O ₂	0.15	0.12
FUG-3	Stabilization Building 3 Process Fugitives (5)	PM	<0.01	0.01
		PM ₁₀	<0.01	0.01
		PM _{2.5}	<0.01	<0.01
		VOC	3.93	(6)
		HAP	3.93	(7) (8)
		HF	<0.01	
		HCl	0.23	
		H ₂ S	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.26	0.24
		HNO ₃	0.24	0.08
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	0.02	0.01
FUG-1, BH1, BH2, BH7, and FUG-3	Stabilization Buildings Annual Emission Caps	VOC	--	6.13
		HAP	--	3.65 (8)
BH4	Catalyst Building Baghouse	PM	1.71	5.49
		PM ₁₀	1.71	5.49
		PM _{2.5}	1.71	5.49
		HAP	0.02	0.05
CAT-FUG1	Drum Loading Fugitives 1 (from Catalyst Building) (5)	PM	<0.01	0.01
		PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		HAP	<0.01	<0.01
CAT-FUG2	Drum Loading Fugitives 2 (from outside) (5)	PM	<0.01	<0.01
		PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		HAP	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

TO	Thermal Oxidizer - Routine (15 MMBtu/hr)	PM	0.11	0.49
		PM ₁₀	0.11	0.49
		PM _{2.5}	0.11	0.49
		SO ₂	16.80	38.63
		NO _x	20.63	35.34
		CO	1.24	5.41
		VOC	2.21	2.05
		HAP	0.76	0.34 (8) (10)
		Total As (9)	3.95	
		HF	15.61	
		HCl	34.57 (10)	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	0.03	<0.01
		HBr	19.04	34.76
		Total Iodine	18.20	33.43
		NH ₃	0.18	0.66
		HNO ₃	10.63	32.42
		H ₃ PO ₄	2.80	8.77
		H ₂ O ₂	0.10	0.31
Landfill	Landfill Emissions	VOC	0.32	1.41
		HAP	0.17	0.73 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	<0.01	0.03
		HNO ₃	<0.01	0.02
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

TDU-TP1	Receiving Bins – Drop Point	PM	<0.01	0.02
		PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		HAP	<0.01	0.02
TDU-TP2	Fixed Bins – Drop Point	PM	<0.01	0.02
		PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		HAP	<0.01	0.02
TDU-TP3	TDU Dryer – Drop Point	PM	<0.01	0.02
		PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		HAP	<0.01	0.02
LANDFILLTP	Landfill – Drop Point	PM	<0.01	<0.01
		PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		HAP	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

Maintenance, Startup, and Shutdown (MSS)

TANK-MSS	Tank MSS	VOC	3.95	0.15
WWTANK-MSS	Wastewater Tank MSS	VOC	0.43	0.01
		HAP	0.43	0.01 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.31	<0.01
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
CARB-VNTMSS	Carbon Vent MSS	VOC	1.89	0.03
		HAP	1.89	0.03 (8)
		HF	<0.01	
		HCl	0.02	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.01	<0.01
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
EQUIP-MSS	Equipment Purging and Opening	PM	<0.01	<0.01
		PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		VOC	3.27	0.04
		HAP	0.44	0.01 (8)
		HF	<0.01	
		HCl	<0.01	

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H ₂ S <0.01 <0.01				
		H ₂ SO ₄	<0.01	<0.01
TPAINT-MSS	TDX Sitewide Painting	NH ₃	0.05	0.02
		HNO ₃	<0.01	<0.01
		H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	0.02	<0.01
		PM	0.49	0.05
		PM ₁₀	0.49	0.05
		PM _{2.5}	0.49	0.05
		VOC	16.65	1.66
		HAP	0.40	0.04
UPAINT-MSS	USET Sitewide Painting	PM	<0.01	<0.01
TBLAST-MSS	TDX Sitewide Abrasive Blasting	PM ₁₀	<0.01	<0.01
		PM _{2.5}	<0.01	<0.01
		VOC	18.77	0.19
		HAP	0.80	<0.01
		PM	1.43	0.01
		PM ₁₀	0.17	<0.01
		PM _{2.5}	0.03	<0.01
UBLAST-MSS	USET Sitewide Abrasive Blasting	PM	2.86	0.01
		PM ₁₀	0.34	<0.01
		PM _{2.5}	0.05	<0.01

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TO-SRTMSS	Thermal Oxidizer Startup	PM	0.06	<0.01
		PM ₁₀	0.06	<0.01
		PM _{2.5}	0.06	<0.01
		SO ₂	<0.01	<0.01
		NO _x	0.45	0.06
		CO	3.09	
		VOC	0.04	
		HAP	0.01	<0.01
TO-VNTMSS	Thermal Oxidizer - MSS	VOC	0.80	<0.01
		HAP	0.80	<0.01
		HF	<0.01	
		HCl	4.04	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.04	<0.01
		HNO ₃	0.63	<0.01
		H ₃ PO ₄	0.03	<0.01
		H ₂ O ₂	<0.01	<0.01
DWELL-MSS	Frac Tank - Deepwell Maintenance	VOC	2.39	0.01
		HAP	2.39	0.01 (8)
		HF	<0.01	
		HCl	<0.01	
		H ₂ S	<0.01	<0.01
		H ₂ SO ₄	<0.01	<0.01
		NH ₃	0.01	<0.01
		HNO ₃	<0.01	<0.01
FLTCHG-MSS	Baghouse Filter Changes	H ₃ PO ₄	<0.01	<0.01
		H ₂ O ₂	<0.01	<0.01
		PM	0.17	<0.01

Emission Sources - Maximum Allowable Emission Rates

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.	PM ₁₀	0.08	<0.01
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.	PM ₁₀	0.01	<0.01
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1	HAP	<0.01	<0.01
NO _x - total oxides of nitrogen			
SO ₂ - sulfur dioxide			
Washout PM - total particulate matter, suspended in the atmosphere, including PM ₁₀ and PM _{2.5} , as represented	VOC	73.71	14.61
PM ₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM _{2.5} , as represented	HAP	28.71	2.43 (8)
PM _{2.5} - particulate matter equal to or less than 2.5 microns in diameter			
CO - carbon monoxide	HF	0.06	
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	HCl	0.12	
H ₂ S - hydrogen sulfide (delisted HAP)			
As - arsenic (HAP)	H ₂ S	<0.01	<0.01
H ₂ SO ₄ - sulfuric acid			
NH ₃ - ammonia	H ₂ SO ₄	<0.01	<0.01
HNO ₃ - nitric acid			
H ₃ PO ₄ - phosphoric acid	NH ₃	2.03	0.77
H ₂ O ₂ - hydrogen peroxide			
HCl - hydrogen chloride (HAP)	HNO ₃	1.53	0.16
HF - hydrogen fluoride (HAP)			
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.	H ₂ O ₂	0.21	0.02
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.			
(6) The annual VOC emissions from this source are included in the Stabilization Buildings Annual VOC Emission Cap of 6.13 tpy.			
(7) The annual H ₂ S, HF, and HCl emissions from this source are included in the Stabilization Buildings Annual HAP cap of 3.65 tpy.			
(8) Emission limit applies to the sum of total HAP emissions (including but not limited to HF and HCl).			
(9) Total Arsenic includes elemental arsenic and arsenic compounds.			
(10) Hourly HCl Emissions from EPN: TO represents maximum emissions from scrubber mode and non-scrubber mode operations.			

Date: January 17th, 2024