

Emission Sources - Maximum Allowable Emission Rates

Permit Number 4005

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)
79S-2A, B, C	Plant 2 Scrubber/CAS System	VOC	0.32	0.20
S-1101	Scrubber S-1101	Bisexamethylenetriamine (BHMT)	0.22	0.01
S-7951	Scrubber S-7951	VOC	0.06	<0.01
CB-411	Granular Activated Carbon (GAC) Canister CB-411	VOC	0.48	0.03
		PM	<0.01	<0.01
		PM ₁₀	<0.01	<0.01
		Acetone	0.02	<0.01
F-1	Flare F-1 (8)	VOC	0.02	<0.01
		NOx	<0.01	0.01
		CO	0.02	0.01
		SO ₂	<0.01	<0.01
F-2	Flare F-2 (8)	VOC	7.20	0.09
		NOx	0.52	0.02
		CO	4.45	0.07
		SO ₂	<0.01	<0.01
TO-1	Thermal Oxidizer TO-1 (8)	VOC	0.49	0.15
		NOx	1.26	1.08
		CO	1.06	0.90
		SO ₂	<0.01	<0.01
		PM	0.10	0.08
		PM ₁₀	0.10	0.08

Emission Sources - Maximum Allowable Emission Rates

		PM _{2.5}	0.10	0.08
B-1A	North Plant Boiler (8)	VOC	0.07	0.29
		NOx	0.44	1.93
		CO	1.01	4.42
		SO ₂	<0.01	0.03
		PM	0.09	0.40
		PM ₁₀	0.09	0.40
		PM _{2.5}	0.09	0.40
B-2A	South Plant Boiler (8)	VOC	0.07	0.29
		NOx	0.44	1.93
		CO	1.01	4.42
		SO ₂	<0.01	0.03
		PM	0.09	0.40
		PM ₁₀	0.09	0.40
		PM _{2.5}	0.09	0.40
CH146	Building C Hot Water Boiler (8)	VOC	<0.01	0.03
		NOx	0.07	0.31
		CO	0.12	0.53
		SO ₂	<0.01	<0.01
		PM	0.01	0.05
		PM ₁₀	0.01	0.05
		PM _{2.5}	0.01	0.05

DH192	Building D Hot Water Boiler (8)	VOC	0.01	0.05
		NOx	0.09	0.41
		CO	0.16	0.69
		SO ₂	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

		PM ₁₀	0.01	0.06
		PM _{2.5}	0.01	0.06
CWT	3 Cooling Towers	VOC	0.42	1.84
		PM	0.04	0.16
		PM ₁₀	0.04	0.16
		PM _{2.5}	<0.01	<0.01
LOADPLTFUG	Truck Loading Losses	VOC	18.69	4.55
FUG-PLT	Plant Fugitives (6)	VOC	1.45	6.35
FUG-9NV	Non-VOC Tank Fugitives (T-4129, 4130, 4131, 4140, 4141) (6)	Phosphorous Acid	0.12	0.55
		Hydrochloric Acid	0.09	0.38
FUG-5NV	Non-VOC Tank Fugitives (Tanks T-4945, T-7971) (6)	Potassium Borate	0.10	0.43
		Potassium Hydroxide	0.08	0.34
HOH	3 Hot Oil Heaters (HOH- 2, HOH-3, HOH-4B) (8)	VOC	0.04	0.17
		NO _x	0.23	1.02
		CO	0.59	2.60
		SO ₂	<0.01	0.02
		PM	0.05	0.23
		PM ₁₀	0.05	0.23
		PM _{2.5}	0.05	0.23
T-4148	Tank 4148	VOC	0.67	0.35
T-2101/T-2102	Central Loading Area Tanks	VOC	2.21	1.23
T1007-WW	T-1007 Wastewater Removal	VOC	0.02	<0.01
T1008-WW	T-1008 Wastewater Removal	VOC	0.02	<0.01
SLD-R103	R-103 Solids	PM	46.23	1.71
		PM ₁₀	4.94	0.14
		PM _{2.5}	4.94	0.14

Emission Sources - Maximum Allowable Emission Rates

SLD-R113	R-113 Solids	PM	<0.01	0.03
VOC Storage Tanks – Operational Group A				
T-4145	Tank 4145	VOC	1.79	0.10
T-7903	Tank 7903	VOC	3.03	0.14
T-7904	Tank 7904	VOC	3.73	0.14
T-7905	Tank 7905	VOC	2.02	0.09
T-7909	Tank 7909	VOC	1.70	0.02
T-7910	Tank 7910	VOC	1.70	0.11
T-7911	Tank 7911	VOC	4.04	0.04
T-7929	Tank 7929	VOC	1.70	0.02
T-7930	Tank 7930	VOC	2.02	0.07
T-7934	Tank 7934	VOC	4.04	0.27
T-7935	Tank 7935	VOC	4.04	0.30
T-7936	Tank 7936	VOC	4.04	0.29
T-7938	Tank 7938	VOC	3.40	0.04
T-7948	Tank 7948	VOC	2.37	0.10
T-7950	Tank 7950	VOC	2.37	0.09
T-7956	Tank 7956	VOC	1.58	0.04
T-7957	Tank 7957	VOC	1.58	0.11
T-7958	Tank 7958	VOC	1.58	0.04
T-7959	Tank 7959	VOC	3.16	0.05
T-7960	Tank 7960	VOC	1.58	0.16
T-7965	Tank 7965	VOC	3.45	0.12
T-7976	Tank 7976	VOC	4.04	0.24
T-7977	Tank 7977	VOC	1.58	0.14
T-7981	Tank 7981	Toluene	11.34	0.61
		Benzene	0.04	0.01

Emission Sources - Maximum Allowable Emission Rates

T-7983	Tank 7983	VOC	3.16	0.14
T-7984	Tank 7984	VOC	3.16	0.20
T-7985	Tank 7985	VOC	3.16	0.18
TK-UNCTRL- VOC-A (5)	VOC Storage Tanks – Operational Group A Emission Cap	VOC	39.32	4.23
VOC Storage Tanks – Operational Group B				
T-7961	Tank 7961	Methanol	17.28	1.00
T-7962	Tank 7962	Isopropanol	14.06	0.49
TK-UNCTRL- VOC-B (5)	VOC Storage Tanks – Operational Group B Emission Cap	VOC	17.28	1.49
VOC Storage Tanks – Operational Group C				
T-4106	Tank 4106	VOC	5.96	0.37
T-4128	Tank 4128	VOC	23.83	1.03
T-7920	Tank 7920	VOC	7.41	0.84
T-7940	Tank 7940	VOC	4.04	0.63
T-7947	Tank 7947	VOC	7.58	0.20
T-7949	Tank 7949	VOC	7.11	0.19
T-7964	Tank 7964	VOC	9.48	0.51
T-7972	Tank 7972	VOC	12.13	0.81
T-7978	Tank 7978	VOC	12.13	1.03
TK-UNCTRL- VOC-C (5)	VOC Storage Tanks – Operational Group C Emission Cap	VOC	35.95	5.61
Other Storage Tanks				
T-1007	Tank 1007	VOC	0.02	<0.01
T-1008	Tank 1008	VOC	0.02	<0.01
T-1415	Tank 1415	VOC	0.03	<0.01
T-1701	Tank 1701	VOC	0.03	<0.01
T-1702	Tank 1702	VOC	0.03	<0.01

Emission Sources - Maximum Allowable Emission Rates

		Hydrochloric Acid	<0.01	<0.01
T-4130	Tank 4130	Phosphorous acid	<0.01	<0.01
		Hydrochloric Acid	<0.01	<0.01
T-4131	Tank 4131	Phosphorous acid	<0.01	<0.01
		Hydrochloric Acid	<0.01	<0.01
T-4132	Tank 4132	Ammonium Zirconium Lactate Complex	<0.01	<0.01
		Ammonium Chloride	<0.01	<0.01
		Ammonium Acetate	<0.01	<0.01
T-4133	Tank 4133	Polyphosphoric acid	<0.01	<0.01
		Phosphoric acid	<0.01	<0.01
T-4137	Tank 4137	VOC	<0.01	<0.01
T-4141	Tank 4141	Phosphorous acid	<0.01	<0.01
		Hydrochloric Acid	<0.01	<0.01
T-7925	Tank 7925	VOC	0.13	0.01
T-7941	Tank 7941	VOC	0.05	0.01
T-7945	Tank 7945	KOH	<0.01	<0.01
T-7968	Tank 7968	VOC	0.02	<0.01
T-7971	Tank 7971	Potassium Metaborate	<0.01	<0.01
		Potassium Hydroxide	<0.01	<0.01
T-7974	Tank 7974	VOC	0.02	<0.01
T-7975	Tank 7975	VOC	0.02	<0.01
T-7988	Tank 7988	VOC	0.03	<0.01
MSS-SITE	MSS Emission Cap (7)	VOC	28.53	3.01
		PM	16.12	0.08
		PM ₁₀	0.52	0.02
		PM _{2.5}	0.52	0.02
		Isoprenes	0.71	0.02

Emission Sources - Maximum Allowable Emission Rates

Points at the Site		Total HAP	---	<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
 CO - carbon monoxide
 SO₂ - sulfur dioxide
 PM - total particulate matter, suspended in the atmosphere, including PM₁₀
 PM₁₀ - total particulate matter equal to or less than 10 microns in diameter
 HCl - hydrogen chloride
 KOH - potassium chloride
- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
- (5) A maximum of 8 uncontrolled tanks in VOC Tank Group A can be filled during a one-hour period.
 A maximum of 1 uncontrolled VOC tank from Group B can be filled during a one-hour period.
 A maximum of 2 uncontrolled VOC tanks from Group C can be filled during a one-hour period.
 A maximum of 10 tanks vented to the thermal oxidizer can be filled simultaneously during a one-hour period.
 A maximum of 4 tanks vented to Flare F-2 as back-up to TO-1 can be filled simultaneously during a one-hour period.
 A maximum of 6 tanks vented to GAC Canister CB-411 as back-up to TO-1 can be filled simultaneously during a one-hour period.
- (6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (7) Emission rate includes controlled and uncontrolled emissions associated with planned MSS activities.
- (8) Fuel gas for the combustion devices and assist/pilot gas for the flares authorized by this permit includes landfill gas as represented. Pipeline quality, sweet natural gas is also authorized.

Date: November 10, 2020