Emission Sources - Maximum Allowable Emission Rates

Permit Number 31811

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 (5)	
			lbs/hour	TPY (4)
AS-1 through AS-4 AS-6 through AS-9 AS-12 through AS-16 AS-18 through AS-22 BS-1 through BS-12 BS-16 through BS-18 BS-X TO-1A, TO-1B, TO-2, TO-3, TO-4A, and TO-4B	Combined Non-Product of Combustion (POC) Process Emissions from: FAB1 and FAB2 process sources and storage tank working and breathing emissions routed through RTOs and aqueous acid and base scrubbers. Combined POC Emissions from 1,174 thermal Point of Use (POU) control devices. *see footnote 6 for FAB1 and FAB2 process source information. *see footnote 7 for storage tank information. *see footnote 8 for POU information *see footnote 10 for RTO maintenance information	VOC	99.35	146.89
		VOC (8)	0.20	0.88
		Exempt Solvents	41.31	180.92
		Inorganics	45.24	194.00
		Fluorine (9)	0.45	1.98
		NO_x	0.92	4.03
		NO_x (8)	16.56	72.55
		CO	0.40	1.75
		CO (8)	10.53	46.14
		SO_2	0.19	0.81
		SO_2 (8)	0.02	0.10
		PM	4.09	17.92
		PM (8)	0.14	0.61
		PM_{10}	4.09	17.92
		PM_{10} (8)	0.14	0.61
		$PM_{2.5}$	4.09	17.92
		$PM_{2.5}$ (8)	0.07	0.30

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (5)	
			lbs/hour	TPY (4)
TO 1A and TO-1B TO-2 and TO-3 TO-4A, and TO-4B	Combined POC Emissions from Thermal Oxidizers TO-1A, TO-1B, TO-2, TO-3, TO-4A, and TO-4B	VOC	0.10	0.44
		NO_x	0.55	2.43
		CO	6.30	27.60
		SO_2	0.26	1.14
		PM	0.14	0.61
		PM_{10}	0.14	0.61
		$PM_{2.5}$	0.14	0.61
B-1 through B-3	Combined POC Emissions from 32.66 MMBtu/hr Natural Gas Fired Boilers B-1 through B-3.	VOC	0.20	0.89
		NO_x	9.09	7.57
		CO	2.27	16.29
		SO_2	3.23	1.89
		PM	0.91	4.62
		PM_{10}	0.91	4.62
		$PM_{2.5}$	0.49	2.31
GEN-1 through GEN-12	Combined POC Emissions from Diesel Fired Generators GEN-1 through GEN-12	VOC	41.17	1.23
		NO_x	591.61	17.75
		CO	70.63	2.12
		SO_2	16.67	0.50
		PM	14.10	0.42
		PM_{10}	14.10	0.42
		$PM_{2.5}$	7.05	0.21
BTLCRSH1	Fugitive Emissions from Bottle Crusher 1	VOC	0.15	0.15
BTLCRSH2	Fugitive Emissions from Bottle Crusher 2	VOC	0.15	0.15

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (5)	
			lbs/hour	TPY (4)
NH3FUG	Ammonia Bulk Fugitive Emissions	NH_3	<0.01	0.01
BSGSFUG1	Bulk Specialty Gas Storage Facility Fugitive Emissions Area 1	Exempt Solvent	0.22	0.04
		Inorganics	0.21	0.04
BSGSFUG2	Bulk Specialty Gas Storage Facility Fugitive Emission Area 2	PM	0.01	<0.01
		PM_{10}	0.01	<0.01
		$PM_{2.5}$	0.01	<0.01
TANKFUG1	FAB1 Tank Farm Pipe and Fitting Fugitive Emissions	VOC	0.49	2.16
TANKFUG2	FAB2 Tank Farm Pipe and Fitting Fugitive Emissions	VOC	0.17	0.72
All Emission Points at the Site	All Sources at the Site	Individual HAP	---	<10.00
		Total HAPs	---	<25.00

Acronyms

- RTO - Rotary Concentrator Thermal Oxidizer
- POC - Products of Combustion
- POU - Point of Use Combustion Emission Control Device

(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) Exempt Solvent - Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound.
- VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code §101.1
- NO_x - total oxides of nitrogen
- CO - carbon monoxide
- SO_2 - sulfur dioxide
- NH_3 - ammonia
- PM - total particulate matter suspended in the atmosphere, including PM_{10} and $PM_{2.5.}$
- PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5.}$
- $PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
- 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

(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) The allowable emission rates include planned maintenance, startup, and shutdown activities.
(6) FAB1 and FAB2 process emission source information:

Emission Sources - Maximum Allowable Emission Rates

EPN	Description
AS-1 to AS-4 AS-6 to AS-9 AS-12 to AS-16 AS-18 to AS-22	Aqueous Acid Scrubbers 1 through 4 Aqueous Acid Scrubbers 6 through 9 Aqueous Acid Scrubbers 12 through 16 Aqueous Acid Scrubbers 18 through 22
AS-1 to AS-4 AS-6 to AS-9, AS-19 to AS-22 AS-12 to AS-16 AS-18	Non-POC process emissions from: 169 POU Combustion Control Devices utilized in FAB1 520 POU Combustion Control Devices utilized in FAB2/MOD 1 485 POU Combustion Control Devices utilized in FAB2/MOD 2
BS-1 to BS-12, BS-X BS-16 to BS-18	Aqueous Base Scrubbers 1 through 12, and X Aqueous Base Scrubbers 16 through 18
TO-1A and TO-1B TO-2 and TO-3 TO-4A and TO-4B	Non-POC Emissions from RTOs: Thermal Oxidizers TO-1A and TO-1B Thermal Oxidizers TO-2 and TO-3 Thermal Oxidizers TO-4A and TO-4B

(7) Storage tank working and breathing emission source information

FIN	EPN	Description
ST-1	AS-1 through AS-4	10,500 gallon storage tank
ST-2	AS-1 through AS-4	2,100 gallon storage tank
ST-3	AS-1 through AS-4	5,400 gallon storage tank
ST-8	TO-1A, TO-1B or TO-2	4,200 gallon storage tank
ST-9	TO-1A, TO-1B or TO-2	4,200 gallon storage tank
ST-10	TO-1A, TO-1B or TO-2	4,200 gallon storage tank
ST-12	AS-1 through AS-4	31,080 gallon storage tank
ST-14	AS-1 through AS-4	7,560 gallon storage tank
ST-15	AS-1 through AS-4	3,360 gallon storage tank
ST-16	TO-1A, TO-1B or TO-2	3,500 gallon storage tank
ST-21	AS-6 through AS-9	12,180 gallon storage tank
ST-22	AS-6 through AS-9	9,660 gallon storage tank
ST-23	AS-6 through AS-9	8,400 gallon storage tank
ST-24	TO-3, TO-4A or TO-4B	6,300 gallon storage tank
ST-26	AS-6 through AS-9	6,300 gallon storage tank
ST-27	TO-3, TO-4A or TO-4B	6,300 gallon storage tank
ST-28	TO-3, TO-4A or TO-4B	6,300 gallon storage tank
ST-29	AS-1 through AS-4	6,300 gallon storage tank
ST-30	AS-6 through AS-9	11,500 gallon storage tank
ST-31	AS-6 through AS-9	11,500 gallon storage tank
ST-32	AS-6 through AS-9	5,650 gallon storage tank
ST-33	TO-3, TO-4A or TO-4B	2,000 gallon storage tank
ST-34	AS-6 through AS-9	2,800 gallon storage tank
ST-35	AS-6 through AS-9	16,380 gallon storage tank
ST-36	AS-6 through AS-9	16,380 gallon storage tank
ST-37	AS-6 through AS-9	16,380 gallon storage tank
ST-38	TO-3, TO-4A or TO-4B	5,460 gallon storage tank

Emission Sources - Maximum Allowable Emission Rates

(8) POC emission sources from thermal POU control devices associated with FAB1 and FAB2

AS-1 to AS-4	169 POU Combustion Control Devices in FAB1
AS-6 to AS-9, AS-19 to AS-22	520 POU Combustion Control Devices in FAB2/MOD 1
AS-12 to AS-16, AS-18	485 POU Combustion Control Devices in FAB2/MOD 2

(9) Fluorine emissions are included in the allowable emission rates for inorganics.

(10) Manufacturing operations that vent to the rotary concentrator/RTO shall be limited to 120 hours of uncontrolled operation over a rolling 12-month period during times when the rotary concentrator/RTO is off-line for maintenance or repair.

Date: February 27, 2018