EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 4449

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. 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 * lb/hr	TPY**
100ANAL	Butanol Unit Building 1	VOC	1.26	5.53
	Vent Analyzer	CO	0.18	0.77
100F	Fugitives (4)	VOC	7.4	32.5
		CO 0.8	3.4	
100CAT	Catalyst Emissions	VOC	2.95	0.42
100GB	Guard Bed Regeneration	SO_2	13.4	0.32
100V23	Tank V-23	VOC	0.25	0.05
100GRPTK	Combined Emission Points Tanks V30, V34, and V35	VOC	64.94	2.93***
100V500	Tank V-500	VOC	0.74	1.40
100V501	Tank V-501	VOC	0.74	1.40
100V502	Tank V-502	VOC	0.74	1.40
100V865	Tank V-865	VOC	0.74	0.82
100V917	Tank V-917	VOC	0.01	0.05
100V984	Tank V-984	VOC	0.80	0.40

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY**
100V1034	Tank V-1034	VOC	1.07	2.40
100V1263	Tank V-1263	VOC	0.33	0.573
251F	Shipping Equipment Fugitives (4)	VOC methyl acetate	4.05 0.05	17.7 0.05
251AV37	Tank V-37	VOC	0.67	0.40
251AV38	Tank V-38	VOC	1.01	2.10
251AV119	Tank V-119 (from T-104)	VOC	4.8	0.18
251AV829	Tank V-829	VOC	1.04	2.16
251AV866	Tank V-866	VOC	0.74	0.82
251AV994	Tank V-994	VOC	1.11	0.70
251AV995	Tank V-995	VOC	1.11	0.70
251DBL	Barge Loading Fugitives (4) (6)	VOC	9.30	4.11
251DTC	Railcar Loading (6)	VOC	17.81	
251DTL	Large Tank Truck Loading Rack Fugitives (6)	VOC	9.1	
251DTL2	Small Tank Truck Loading Rack Fugitives (6)	VOC	3.7	

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY**
251DM1205	Shipping Flare	VOC	97.5	26.0
		NO_x	4.7	7.5
		CO	40.5	64.2
		SO_2	0.1	0.7
251DM2224	Thermal Oxidizer	VOC	0.7	3.0
		NO_x	0.7	1.7
		CO	1.1	1.4
		SO_2	0.1	0.1
		PM_{10}	0.1	0.1
251V1306	Storage Tank V-1306	VOC	0.4	0.03
251V1307	Storage Tank V-1307	VOC	1.3	0.02
302M330, 302M331 & 302M460	Boilers - Combined Emissions (BuOH Unit Only) (7) Only) (7)	CO	84.4	82.4
		VOC	4.0	3.1
		PM_{10}	2.6	4.6
		SO_2	2.9	6.6
303M1239	Ethylene Flare (BuOH Unit Only)	CO	130.4	20.1
		NO_x	22.0	3.3
		SO_2	0.6	0.1
		VOC	153.6	24.6
303M1239	Ethylene Flare (Start-Up, Shutdown, and Maintenance Operation)	CO	85.5	0.1
		NO_x	16.8	0.01
		SO_2	0.2	0.01
		VOC	123.9	0.2

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(1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
(2) Specific point source names. For fugitive sources, use an 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
SO_2 - sulfur dioxide
PM_{10} - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
(4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
(5) Railcar loading and cleaning operations do not occur simultaneously.
(6) The annual emissions rate for EPNs 251DTL, 251DTL2, and 251DTC are included in the annual emission rate for EPN 251DBL. All annual emissions for these sources are not to exceed a rolling 12-month emission rate listed for EPN 251DBL (4.11 tons per year VOC).
(7) Also see Permit Numbers 2175 and 5546 which contain emission limitations due to waste gas flows to these boilers. NO_X emissions for these boilers included in Permit 2175.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

24 Hrs/day 7 Days/week 52 Weeks/year or ___ Hrs/year

** Compliance with annual emission limits is based on a rolling 12-month period.

*** Annual cap for Tanks 100V30, 100V34, and 100V35 added together added per any 12-month period.

Dated December 7, 2004