

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 3836

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.

DATA		AIR CONTAMINANTS		
<u>Emission Rates *</u>	Source	Air Contaminant	<u>Emission</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	
<u>TPY**</u>				
Storage Tank Area				
T-202	Tank T-202	NaOH	0.05	0.01
T-207	Tank T-207	VOC	0.71	0.02
T-401	Tank T-401	VOC	0.01	0.01
T-403	Tank T-403	VOC	0.01	0.01
T-404	Tank T-404	VOC	0.08	0.01
T-405	Tank T-405	VOC	0.11	0.01
T-418	Tank T-418	VOC	0.09	0.01
T-603	Tank T-603	VOC	0.87	0.23
T-604	Tank T-604	VOC	3.97	0.06
Z-703	Tanks T-121, T-122, T-123, and T-124 Scrubber	HCl VOC	0.02 0.32	0.01 0.06
Z-709	Tanks T-117, T-118, T-119, and T-120 Scrubber	VOC	0.13	0.01
Z-711	Tank T-214 Scrubber	H ₂ S	0.01	0.01

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<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	
<u>TPY**</u>				
		VOC	0.03	0.01
STOR-FUG	Fugitives (4) Tank Farm Area	VOC	2.00	8.76
V-605	Tank V-605	VOC	0.01	0.01
T-350	Tank	VOC	0.01	0.01
T-253	Tank T-253	VOC	0.07	0.01
Z-704	Tank T-262 Scrubber	VOC	0.32	0.01
Z-705	Tank T-250 Scrubber	VOC	0.06	0.01
Z-707	Tank V-022 Scrubber	NH ₃	0.02	0.01
		VOC	0.02	0.01
Plant Utilities Area				
B-601	Utility Boiler	CO	1.09	4.77
		NO _x	0.39	1.72
		PM ₁₀	0.28	1.21
		SO ₂	0.05	0.24
		VOC	0.20	0.87
B-602	Utility Boiler	CO	1.09	4.77
		NO _x	0.39	1.72
		PM ₁₀	0.28	1.21
		SO ₂	0.05	0.24
		VOC	0.20	0.87
H-602	Hot Oil Heater	CO	0.59	2.58
		NO _x	0.21	0.93
		PM ₁₀	0.15	0.65
		SO ₂	0.03	0.13
		VOC	0.11	0.47

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<u>TPY**</u>				
G-601	Emergency Generator (5)	CO	3.84	0.10
		NO _x	17.83	0.46
		PM ₁₀	1.27	0.03
		SO ₂	1.18	0.03
		VOC	1.45	0.04
FWP	Fire Water Pumps (5)	CO	6.51	0.54
		NO _x	30.23	2.52
		PM ₁₀	2.15	0.18
		SO ₂	2.00	0.17
		VOC	2.45	0.21
UTIL-FUG	Fugitives (4) Utilities Area	VOC	0.11	0.50
Plant 2 - Amine Condensation Polymerization Area				
V-023	Reactor Vent	VOC	3.27	0.01
Z-708	Scrubber for Tanks T-251, T-257 (Tropylene), T-258, and T-259	VOC	0.26	0.01
		NH ₃	0.02	0.01
		H ₂ S	0.03	0.01
Z-712	Tank T-252 Scrubber	HCl	0.01	0.01
		VOC	0.06	0.01
Z-713	Methyl Chloride Scrubber	CH ₃ Cl	2.65	0.14
PL2-FUG	Fugitives (4) Plant 2 Area	VOC	0.49	2.16
CS2-FUG	Fugitives (4) Carbon Disulfide Handling	CS ₂	0.01	0.01

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<u>TPY**</u>				

Plant 3 - Intermediates Chemical Processing

PL3-FUG	Fugitives (4) Plant 3 Area	VOC	0.31	1.35
Z-715	Oxide Scrubber	EO	0.25	0.14
		PO	0.95	0.17

Plant 5 - Blending and Drumming

F-501	Filter Press	VOC	0.53	0.95
F-502	Filter Press	VOC	0.53	0.95
F-503	Sparkler Filter	VOC	0.01	0.01
PL5-FUG	Fugitives (4) Plant 5 Area	VOC	0.27	1.18

General

Loading	Loading (6)	VOC	5.57	2.04
FUG-XP	XP-200 Area Fugitives (4)	VOC	0.03	0.12
CT-601	Utility Cooling Tower	PM ₁₀	0.17	0.73
Z-714	Vapor Combustor	CO	8.11	3.58
		NO _x	4.46	3.53
		VOC	27.38	4.01
		SO ₂	0.53	2.31
		PM ₁₀	0.05	0.23
		HCl	1.16	0.26

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<u>TPY**</u>				

Maintenance, Start-up, and Shutdown Activities (7)

Z-714	Vapor Combustor Combustion (48 hrs/yr)	CO	0.12	0.01
		NO _x	0.06	0.01
		VOC	0.41	0.01
Z-714 Tanks -MSS	Vapor Combustor (48 hrs/yr) Tanks MSS Emissions	VOC	0.42	0.01
Scrubber Tanks -MSS	Tank De-heelled Emissions (3 hrs/yr for one tank)	VOC	0.23	0.01
Uncontrolled Tanks -MSS	Uncontrolled Tanks (3 hrs/yr for one tank)	VOC	2.96	0.01

Tanks degassing emissions controlled by scrubbers (2 hrs/yr for one scrubber):

Z-703	Tank Scrubber	VOC	0.10	0.01
Z-704	Tank Scrubber	VOC	0.01	0.01
Z-705	Tank Scrubber	VOC	0.01	0.01
Z-707	Tank Scrubber	VOC	0.01	0.01
Z-708	Tank Scrubber	VOC	0.18	0.01
Z-709	Tank Scrubber	VOC	0.09	0.01
Z-711	Tank Scrubber	VOC	0.03	0.01
Z-712	Tank Scrubber	VOC	0.01	0.01
Z-717	Tank Scrubber	VOC	0.01	0.01

Fugitive emissions (20 hrs/yr for each area):

PL2-FUG	Fugitives (4)	VOC	0.01	0.01
PL3-FUG	Fugitives (4)	VOC	0.01	0.01
PL5-FUG	Fugitives (4)	VOC	0.01	0.01
STOR-FUG	Fugitives (4)	VOC	0.01	0.01
UTIL-FUG	Fugitives (4)	VOC	0.01	0.01
FUG-XP	Fugitives (4)	VOC	0.01	0.01
CS2-FUG	Fugitives (4)	VOC	0.01	0.01

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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 area name or fugitive source name.
- (3) NaOH - sodium hydroxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
HCl - hydrogen chloride
H₂S - hydrogen sulfide
CO - carbon monoxide
NO_x - total oxides of nitrogen
PM₁₀ - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
SO₂ - sulfur dioxide
NH₃ - ammonia
CH₃Cl - methyl chloride
CS₂ - carbon disulfide
EO - ethylene oxide
PO - propylene oxide
- (4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
- (5) Operated for emergency use and required maintenance only.
- (6) The loading emission rates will consist of emissions from drum loading, ipak loading, truck loading, and railcar loading.
- (7) The maintenance, startup, and shutdown activities shall comply with the requirements specified in the Special Condition Nos. 35 and 36 of this permit.

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

8,760 hrs/year

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

NOTE: The combined emissions of all sources of hazardous air pollutants (HAPS) at this site is limited to less than 10 tpy of any single HAP and less than 25 tpy of any combination of aggregate HAPS. Records will be maintained on-site to confirm that this condition is being met on a rolling 12-month basis.

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Dated October 21, 2008