

# EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 5611

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)	<u>Emission Rates *</u>	
			lb/hr	TPY

### CURRENT PERMIT VALUES (Effective until 6 months after Permit Amendment)

ST201ST	Hot Oil Heater	NO <sub>x</sub>	11.00	47.00
		PM	1.10	4.60
		CO	2.70	11.74
		SO <sub>2</sub>	1.07	4.69
		VOC	0.20	0.94
ST202ST	A Feed Gas Compressor	NO <sub>x</sub>	1.45	6.35
		CO	2.18	9.55
		SO <sub>2</sub>	0.05	0.22
		VOC	0.36	1.58
ST203ST	B Feed Gas Compressor	NO <sub>x</sub>	1.45	6.35
		CO	2.18	9.55
		SO <sub>2</sub>	0.05	0.22
		VOC	0.36	1.58
ST204ST	C Feed Gas Compressor	NO <sub>x</sub>	1.45	6.35
		CO	2.18	9.55
		SO <sub>2</sub>	0.05	0.22
		VOC	0.36	1.58
ST301ST	Regeneration Heater	NO <sub>x</sub>	0.09	0.40
		PM	0.01	0.05
		CO	0.02	0.08
		SO <sub>2</sub>	0.01	0.05
		VOC	<0.01	0.03
ST703TK	Tank	VOC	12.19	7.46
ST706TK	Tank	VOC	11.89	9.78

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ST707TK	Tank	VOC	1.91	1.96
ST708TK	Tank	VOC	0.37	0.02
ST709TK	Tank	VOC	0.92	0.11

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY
ST710TK	Tank	VOC	6.53	0.16
ST711TK	Tank	VOC	11.70	0.26
ST712TK	Tank	VOC	0.23	0.01
ST713TK	Tank	VOC	12.21	1.10
ST714TK	Tank	VOC	49.44	0.46
ST715TK	Tank	VOC	4.23	0.75
ST718TK	Tank	VOC	6.64	0.86
ST720TK	Tank	VOC	0.12	0.05
ST722TK	Tank	VOC	8.11	2.61
ST726TK	Tank	VOC	6.72	1.56
ST728TK	Tank	VOC	20.95	0.20
ST730TK	Tank	VOC	0.68	0.01
ST735TK	Tank	VOC	1.37	1.96
ST524-B	No. 4 Tank	VOC	0.01	0.03
ST737TK	Tank	VOC	24.73	0.98

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FST301FE	Fugitive (4)	VOC	11.33	49.60
		BF <sub>3</sub>	0.11	0.49
FST401FE	Fugitive (4)	VOC	12.19	53.40
FST501FE	Fugitive (4)	VOC	5.07	12.20
FST601FE	Fugitive (4)	VOC	0.28	1.20
FST701FE	Fugitive (4)	VOC	2.58	11.30
FST902FE	Fugitive (4)	VOC	0.76	3.31
		PM	1.29	0.30

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY
ST601LR	Fugitive (4)	VOC	40.50	0.45
ST602LR	Fugitive (4)	VOC	5.90	0.03
ST502ST	Vent	VOC	1.39	0.01
ST403ST	Superheater	NO <sub>x</sub>	26.83	117.52
		CO	1.49	6.50
		PM	2.16	9.45
		SO <sub>2</sub>	0.37	1.61
		VOC	2.12	9.30
ST101FL	Styrene Flare	NO <sub>x</sub>	3.40	3.67
		CO	24.50	26.50
		VOC	39.60	7.17
		SO <sub>2</sub>	0.70	0.57
		H <sub>2</sub> S	<0.01	<0.01
ST501FL	O <sub>2</sub> -Rich Flare	NO <sub>x</sub>	0.09	0.38
		CO	0.44	1.94
		VOC	0.62	2.71
		SO <sub>2</sub>	0.01	0.05

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ST502FL	H <sub>2</sub> -Rich Flare	NO <sub>x</sub>	0.33	0.10
		CO	1.67	0.49
		VOC	0.45	0.07
		SO <sub>2</sub>	<0.01	0.01
ST601FL	Loading Flare	NO <sub>x</sub>	0.21	0.04
		CO	1.79	0.32
		VOC	0.47	0.40
		SO <sub>2</sub>	0.05	<0.01
EY005FL	Backup Flare (5)			

Dated\_\_\_\_\_

AIR CONTAMINANTS DATA

Emission	Source	Air Contaminant	<u>Emission Rates *</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY

PERMIT EMISSIONS (Effective Six Months after Approval of Amendment)

ST201ST	Hot Oil Heater	NO <sub>x</sub>	11.00	47.00
		PM	1.10	4.60
		CO	2.70	11.74
		SO <sub>2</sub>	1.07	4.69
		VOC	0.20	0.94
ST301ST	Regeneration Heater	NO <sub>x</sub>	0.09	0.40
		PM	0.01	0.05
		CO	0.02	0.08
		SO <sub>2</sub>	0.01	0.05
		VOC	<0.01	0.03
ST403ST	Superheater	NO <sub>x</sub>	26.83	117.52

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		PM	2.16	9.45
		CO	1.49	6.50
		SO <sub>2</sub>	0.37	1.61
		VOC	2.12	9.30
ST202ST	A Feed Gas Compressor	NO <sub>x</sub>	1.45	6.35
		CO	2.18	9.55
		SO <sub>2</sub>	0.05	0.22
		VOC	0.36	1.58
ST203ST	B Feed Gas Compressor	NO <sub>x</sub>	1.45	6.35
		CO	2.18	9.55
		SO <sub>2</sub>	0.05	0.22
		VOC	0.36	1.58
ST204ST	C Feed Gas Compressor	NO <sub>x</sub>	1.45	6.35
		CO	2.18	9.55
		SO <sub>2</sub>	0.05	0.22
		VOC	0.36	1.58
ST101FL	Styrene Flare	SO <sub>2</sub>	0.70	0.57
		H <sub>2</sub> S	<0.01	<0.01
		NO <sub>x</sub>	3.40	3.67
		CO	24.50	26.50
		Benzene	1.79	0.33
		VOC (total)	39.46	7.17

# AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
ST501FL	O <sub>2</sub> -Rich Flare	SO <sub>2</sub>	0.02	0.06
		NO <sub>x</sub>	0.09	0.38
		CO	0.45	1.94
		VOC	0.62	2.71
ST502FL	H <sub>2</sub> -Rich Flare	SO <sub>2</sub>	<0.01	0.01
		NO <sub>x</sub>	0.33	0.10
		CO	1.67	0.49
		VOC	0.45	0.07

### EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

ST601FL	Loading Flare	NO <sub>x</sub>	0.23	0.08
		CO	1.95	0.70
		VOC	1.30	1.18
		SO <sub>2</sub>	0.05	<0.01
ST601LR	Railcar Loading Rack	VOC	2.50	0.46
ST602LR	Truck Loading Rack	VOC	5.90	0.03
ST604LR	Truck Loading Rack	VOC	1.92	0.07
ST605LR	Railcar Loading Rack	VOC	6.10	0.02
FST301FE	300 Area Fugitives	Benzene	0.29	1.27
		VOC (total)	4.83	21.10
		BF <sub>3</sub>	0.12	0.52
FST401FE	400 Area Fugitives	VOC	3.53	15.51
FST501FE	500 Area Fugitives	VOC	1.71	7.53
FST601FE	Loading Fugitives	Benzene	0.03	0.13
		VOC (total)	0.13	0.54
FST701FE	Storage Fugitives	Benzene	0.07	0.30
		VOC (total)	0.90	3.94
FST902FE	Styrene Cooling Tower	VOC	0.76	3.31
ST001WT	Process Drains	VOC	0.27	1.19
ST502ST	TBC System	VOC	1.39	0.02

### AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY
ST524-B	No. 4 Tank	VOC	0.01	0.04

ST707TK	Tank V-7	VOC	1.91	1.96
ST710VN	Tank V-10 - CAS	VOC	0.07	<0.01
ST711VN	Tank V-11 - CAS	VOC	0.12	<0.01
ST735TK	Tank V-35	VOC	1.37	1.96
ST737TK	Tank V-37	VOC	14.63	0.98
EY005FL	Flare (5)			

- (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 General Rule 101.1  
NO<sub>x</sub> - total oxides of nitrogen  
SO<sub>2</sub> - sulfur dioxide  
H<sub>2</sub>S - hydrogen sulfide  
PM - particulate matter  
CO - carbon monoxide  
BF<sub>3</sub> - boron trifluoride
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) This Olefins Plant Flare is used as backup for Flare ST101FL.

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

Hrs/day\_\_\_\_Days/week\_\_\_\_Weeks/year\_\_\_\_or Hrs/year 8,760

Dated\_\_\_\_\_

