

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 9908

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)
F-CBLK	Carbon Black Losses	PM	0.86	2.50
		PM <sub>10</sub>	0.86	2.50
		PM <sub>2.5</sub>	0.86	2.50
F-PACKC	Pack Out C Building Losses	Styrene	0.06	0.27
F-PACKCC	Pack Out CC Building Losses	Styrene	0.03	0.11
F-PACKD	Pack Out D Building Losses	Styrene	0.06	0.27
F-PROCESSC	Process C Building Losses	Styrene	0.68	1.10
F-PROCESSCC	Process CC Building Losses	Styrene	0.08	0.13
F-PROCESSD	Process D Building Losses	Styrene	0.68	1.10
F-WWT	Wastewater System	Acetone	0.26	1.16
		BD	0.09	0.38
		Styrene	2.10	9.18
		Cumene	0.06	0.26
		Ethylbenzene	<0.01	<0.01
		Propyl(-n) benzene	0.06	0.25
		Xylene	<0.01	<0.01
		VOC (6)	2.45	10.70
S-CARBLK	Carbon Black Grinding	PM	0.04	0.19
		PM <sub>10</sub>	0.04	0.19
		PM <sub>2.5</sub>	0.04	0.19

Emission Sources - Maximum Allowable Emission Rates

S-SUPERHEAT	Steam Super Heater	CO	0.24	1.04
		NO <sub>x</sub>	0.28	1.24
		PM	0.02	0.09
		PM <sub>10</sub>	0.02	0.09
		PM <sub>2.5</sub>	0.02	0.09
		SO <sub>2</sub>	<0.01	0.01
		VOC	0.02	0.07
SOUTH-CT	South Cooling Tower	PM	0.17-	0.74-
		PM <sub>10</sub>	0.13-	0.59
		PM <sub>2.5</sub>	<0.01-	<0.01-
		VOC (5)	0.76-	3.35-
SS-12	A Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	14.33-	
		VCH	0.51	
		VOC (6)	16.32	
SS-13	B Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	14.37	
		VCH	0.51	
		VOC (6)	16.40	
SS-14	C Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	9.05-	
		VCH	0.32	
		VOC (6)	10.29	

Emission Sources - Maximum Allowable Emission Rates

S-DRYERD	D Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	9.03-	
		VCH	0.32	
		VOC (6)	10.35	
SS-16	E Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	19.91-	
		VCH	0.54	
		VOC (6)	22.18	
S-DRYERF	F Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	19.61-	
		VCH	0.54	
		VOC (6)	21.91	
S-DRYERG	G Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	19.61-	
		VCH	0.54	
		VOC (6)	22.34	
S-DRYERH	H Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	19.96-	
		VCH	0.54	

Emission Sources - Maximum Allowable Emission Rates

		VOC (6)	22.45	
SS-20	I Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	10.47-	
		VCH	0.30-	
		VOC (6)	11.63	
S-DRYERJ	J Dryer	PM	1.80	
		PM <sub>10</sub>	1.80	
		PM <sub>2.5</sub>	1.80	
		Styrene	3.84-	
		VCH	0.15	
		VOC (6)	4.95	
S-DRYER HOURLY	Hourly Styrene Emission Cap for the Ten Dryers	Styrene	(7)	
S-DRYER ANNUAL	Annual Emission Caps for the Ten Dryers	PM		43.50
		PM <sub>10</sub>		43.50
		PM <sub>2.5</sub>		43.50
		Styrene		132.58
		VCH		12.41
		VOC (6)		187.75
S-PROCESSCC	I-Line Packaging Dust	PM	0.02	0.05
		PM <sub>10</sub>	0.02	0.05
		PM <sub>2.5</sub>	0.02	0.05
T-AMINE	Amine Coagulant Tank 6C Storage	VOC	65.32	1.18
T-COAGRID1	Coagulation Aid Tank 1 6C, Make Up	VOC	0.19	
T-COAGRID2	Coagulation Aid Tank 2 6C, Supply	VOC	1.15	
T-COAGRID3	Coagulation Aid Tank 3 6CC, J Line	VOC	0.15	

Emission Sources - Maximum Allowable Emission Rates

T-COAG4ID4	Coagulation Aid Tank 4 6D, Storage	VOC	0.19	
T-COAG4ID5	Coagulation Aid Tank 5 6CC,I Line	VOC	0.19	
T-COAG4ID6	Coagulation Aid Tank 6 6C,Supply	VOC	0.15	
T-COAG4ID	Coagulation Aid Tanks (Annual Emission Cap)	VOC		0.07
T-DIESEL1	Diesel Tank 1, Recovery Area Storage	VOC	0.04	
T-DIESEL2	Diesel Tank 2, Utilities Storage	VOC	0.15	
T-DIESEL3	Diesel Tank 3, Utilities Fire Pump	VOC	0.01	
T-DIESEL	Diesel Tanks (Annual Emission Cap)	VOC		<0.01
T-D/L-OIL1	Extender Oil Tank PTF, Storage	VOC	1.42	
T-D/L-OIL3	Waste Oil Tank OTF, Storage	VOC	1.42	
T-D/L-OIL7	Antioxidant Tank PTF, Storage	VOC	1.41	
T-D/L-OIL8	Extender Oil Tank 1 6D, Storage	VOC	1.97	
T-D/L-OIL9	Extender Oil Tank 2 6D, Storage	VOC	1.97	
T-D/L-OIL10	Extender Oil Tank 3 6D, Storage	VOC	1.64	
T-D/L-OIL	Staining Oil Tanks (Annual Emission Cap)	VOC		0.22
T-EM/MOD1	EMMODMOX Tank 1	VOC	0.38	
T-EM/MOD2	9D, Soap Make Up	VOC	0.34	
T-EM/MOD3	9D, Soap Storage	VOC	0.38	
T-EM/MOD4	9D, Soap Storage	VOC	0.38	
T-EM/MOD5	9D, Defoamer Storage	VOC	0.38	
T-EM/MOD6	PTF, DVB Storage	VOC	0.39	
T-EM/MOD7	PTF, HTFA Storage	VOC	1.30	
T-EM/MOD8	PTF, DDM Mod Storage	VOC	0.83	

Emission Sources - Maximum Allowable Emission Rates

T-EM/MOD9	PTF, Sulfole Mod Storage Tank	VOC	0.75	
T-EM/MOD10	9D, Oxidant Storage Tank	VOC	0.36	
T-EM/MOD11	9D, Oxidant Feed Tank	VOC	0.01	
T-EM/MOD12	9D, Oxidant Feed Tank	VOC	0.01	
T-EM/MOD13	9D, Activator Make Up Tank	VOC	0.27	
T-EM/MOD14	9C, Activator	VOC	0.16	
T-EM/MOD15	9C, Hot Activator	VOC	0.17	
T-EM/MOD17	9C, Shortstop Make Up Tank	VOC	0.03	
T-EM/OX/MOD	Emulsifier, Oxidant and Modifier Tanks 1 through 17 (Annual Emission Cap)	VOC		0.76
T-LTX-B16	Latex Tank B16	Styrene	0.18	
T-LTX-B17	Latex Tank B17	Styrene	0.18	
T-LTX-C11	Latex Tank 11	Styrene	0.19	
T-LTX-C12	Latex Tank 12	Styrene	0.19	
T-LTX-C13	Latex Tank 13	Styrene	0.19	
T-LTX-C14	Latex Tank 14	Styrene	0.19	
T-LTX-C15	Latex Tank 15	Styrene	0.19	
T-LTX-C16	Latex Tank 16	Styrene	0.19	
T-LTX-C17	Latex Tank 17	Styrene	0.19	
T-LTX-C18	Latex Tank 18	Styrene	0.19	
T-LTX-C19	Latex Tank 19	Styrene	0.19	
T-LTX-CC41	Latex Tank CC41	Styrene	0.19	
T-LTX-CC42	Latex Tank CC42	Styrene	0.19	
T-LTX-CC43	Latex Tank CC43	Styrene	0.19	
T-LTX-CC44	Latex Tank CC44	Styrene	0.19	
T-LTX-CC45	Latex Tank CC45	Styrene	0.19	
T-LTX-CC46	Latex Tank CC46	Styrene	0.19	

Emission Sources - Maximum Allowable Emission Rates

T-LTX-CD	Latex C/D Dorr Tank	Styrene	0.19	
T-LTX-D1	Latex Tank D1	Styrene	0.19	
T-LTX-D2	Latex Tank D2	Styrene	0.19	
T-LTX-D3	Latex Tank D3	Styrene	0.19	
T-LTX-D4	Latex Tank D4	Styrene	0.19	
T-LTX-D5	Latex Tank D5	Styrene	0.19	
T-LTX-D6	Latex Tank D6	Styrene	0.19	
T-LTX-D7	Latex Tank D7	Styrene	0.19	
T-LTX-D8	Latex Tank D8	Styrene	0.19	
T-LTX-D9	Latex Tank D9	Styrene	0.19	
T-LTX-D10	Latex Tank D10	Styrene	0.17	
T-LTX-D11	Latex Tank D11	Styrene	0.17	
T-LTX	Latex Tanks (Annual Emission Cap)	Styrene		0.63
T-MSTY1	Main Styrene Tank	Styrene	6.00	2.10
T-SFLEX1	Staining AO Tank 1 PTF Flexzone Storage	VOC	0.01	
T-SFLEX2	Staining AO Tank 2 9C Make Up	VOC	0.01	
T-SFLEX3	Staining AO Tank 3 9D, Make Up	VOC	0.01	
T-SFLEX4	Staining AO Tank 4 9D, Emulsion Storage	VOC	0.01	
T-SFLEX5	Staining AO Tank 5 9D, Make Up	VOC	< 0.01	
T-SFLEX6	Staining AO Tank 6 9D, Make Up	VOC	< 0.01	
T-SFLEX7	Staining AO Tank 7 9D, Make Up	VOC	< 0.01	
T-SFLEX8	Staining AO Tank 8 9D, Storage	VOC	< 0.01	
T-SFLEX9	Staining AO Tank 9 9D, Storage	VOC	0.01	
T-SFLEX10	Staining AO Tank 10 6C, Blend Feed	VOC	0.01	
T-SFLEX11	Staining AO Tank 11 6D, Blend Feed	VOC	0.01	

Emission Sources - Maximum Allowable Emission Rates

T-SFLEX	Staining AO Tanks (Annual Emission Cap)	VOC		< 0.01
T-SGEL	PTF Non-staining AO Storage Tank	VOC	0.04	<0.01
T-SSTP1	Shortstop Tank 1 8CC, Storage	VOC	1.59	
T-SSTP2	Shortstop Tank 2 9D, Make Up	VOC	0.50	
T-SSTP3	Shortstop Tank 3 9C, Make Up	VOC	0.47	
T-SHRTSTOP	Shortstop Tanks (Annual Emission Cap)	VOC		0.01
T-SPLY1	Nonstaining AO Tank 1 9C Make Up	VOC	< 0.01	
T-SPLY3	Nonstaining AO Tank 3 6CC	VOC	< 0.01	
T-SPLY4	Nonstaining AO Tank 4 6CC	VOC	< 0.01	
T-SPLY5	Nonstaining AO Tank 5 6C Blend Feed	VOC	< 0.01	
T-SPLY6	Nonstaining AO Tank 6 6D Blend Feed	VOC	< 0.01	
T-SPLY	Nonstaining AO Tanks 1 through 6 (Annual Emission Cap)	VOC		0.01
T-TALLOIL1	Raw Soap Tank 1 PTF	VOC	0.36	
T-TALLOIL2	Raw Soap Tank 2 PTF	VOC	0.38	
T-TALLOIL3	Raw Soap Tank 3 PTF	VOC	0.36	
T-TALLOIL	Raw Soap Tanks (Annual Emission Cap)	VOC		0.04
T-WGAS	West Gasoline Tank	VOC	13.10	0.21
F-MONTF	Process Fugitive (5)	BD	0.19	0.85
		Styrene	0.13	0.59
F-REACCA	Process Fugitive (5)	BD	0.27	1.18
		Styrene	< 0.01	< 0.01
F-REACCB	Process Fugitive (5)	BD	0.25	1.08
		Styrene	< 0.01	< 0.01
F-REACCC	Process Fugitive (5)	BD	0.14	0.63



Emission Sources - Maximum Allowable Emission Rates

		Styrene	0.02	0.07
F-REACDA	Process Fugitive (5)	BD	0.22	0.98
		Styrene	0.01	0.03
F-REACDB	Process Fugitive (5)	BD	0.31	1.37
		Styrene	< 0.01	< 0.01
F-RECOVCA	Process Fugitive (5)	BD	0.16	0.70
		Styrene	0.02	0.09
F-RECOVCB	Process Fugitive (5)	BD	0.14	0.63
		Styrene	0.01	0.05
F-RECOVCC	Process Fugitive (5)	BD	0.05	0.21
		Styrene	0.01	0.05
F-RECOVDA	Process Fugitive (5)	BD	0.11	0.49
		Styrene	0.02-	0.09-
F-RECOVDB	Process Fugitive (5)	BD	0.05	0.22
		Styrene	0.01	0.05
S-PLANTFLR	Plant Flare Normal Operation	BD	0.07	0.30
		CO	0.55	2.42
		NO <sub>x</sub>	0.10	0.45
		SO <sub>2</sub>	<0.01	<0.01
		VOC (6)	0.16	0.71
	Planned Maintenance, Startup and Shutdown (MSS) Emissions	BD	0.12	0.51
		CO	0.04	0.19
		NO <sub>x</sub>	0.01	0.03
		SO <sub>2</sub>	<0.01	<0.01
		VOC (6)	0.12	0.55
F-MAINT-MTF	Monomer Tank Farm MSS	BD	5.66	0.10
		Styrene	4.09	0.04
		VCH	0.45	< 0.01
F-MAINT-REACCA	CA reactor MSS	BD	1.48	0.23

Emission Sources - Maximum Allowable Emission Rates

		Styrene	1.10	0.01
		VCH	0.12	< 0.01
F-MAINT-REACCB	CB reactor MSS	BD	1.48	0.23
		Styrene	1.10	0.01
		VCH	0.12	< 0.01
F-MAINT-REACCC	CC reactor MSS	BD	1.48	0.23
		Styrene	1.10	0.01
		VCH	0.12	< 0.01
F-MAINT-REACDA	DA reactor MSS	BD	1.48	0.23
		Styrene	1.10	0.01
		VCH	0.12	< 0.01
F-MAINT-REACDB	DB reactor MSS	BD	1.48	0.23
		Styrene	1.10	0.01
		VCH	0.12	< 0.01
F-MAINT-RECV C	C Recovery MSS	BD	1.58	0.10
		Styrene	5.48	0.05
		VCH	0.61	0.01
		VOC (6)	7.67	0.15
F-MAINT-RECVCC	CC Recovery MSS	BD	1.58	0.10
		Styrene	5.48	0.05
		VCH	0.61	0.01
		VOC (6)	7.67	0.15
F-MAINT-RECOVD	D Recovery MSS	BD	1.58	0.10
		Styrene	5.48	0.05
		VCH	0.61	0.01
		VOC (6)	7.67	0.15
F-MAINT CARBON BLACK	Carbon Black Area MSS	PM	1.52	0.09
		PM <sub>10</sub>	1.52	0.09
		PM <sub>2.5</sub>	1.52	0.09

Emission Sources - Maximum Allowable Emission Rates

F-MAINT BLEND FINISHING LAB	Blend Finishing Lab MSS	BD	0.15	0.28
		Styrene	1.80	0.47-
		VCH	0.40-	0.08-
F-MAINT MISC	Miscellaneous MSS	VOC (6)	3.78	0.77
F-MAINT SHOPS	Shops MSS	BD	0.02	< 0.01
		Styrene	0.01	< 0.01
		VOC (6)	1.09	0.07
S-BACKUPFLR	Backup Flare	BD	0.19	0.08
		CO	0.05-	0.02-
		NOx	0.11-	0.05
		VOC	0.24	0.10
		SO <sub>2</sub>	< 0.01	< 0.01

- (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)
  - BD - 1,3-butadiene
  - VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
  - NO<sub>x</sub> - total oxides of nitrogen
  - SO<sub>2</sub> - sulfur dioxide
  - CO - carbon monoxide
  - VCH - vinyl cyclohexene
  - PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented
  - PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented
  - PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) The VOC emissions include all speciated chemicals listed in each EPN.
- (7) The combined hourly styrene emission rate for the ten (10) dryers shall not exceed 95.58 pounds per hour (lbs/hr) for 10% of the year (876 hours/year) and shall not exceed 42.7 lb/hr for the remaining hours of the year.

Date: January 3, 2020