

Emission Sources - Maximum Allowable Emission Rates

Permit Number 2356

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)
Incoming Material Handling/Treatment				
CSTS66	Bunker Convey	PM/PM ₁₀	0.046	0.20
		PM _{2.5}	0.009	0.04
CRH22	Incoming Material Crushing Conveyor	PM/PM ₁₀	0.129	0.563
		PM _{2.5}	0.026	0.113
PST23	Storage Hopper Baghouse	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
PST24	Blender Conveyor Baghouse	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
PMTH60	PM Stack Conveyor	PM/PM ₁₀	0.086	0.375
		PM _{2.5}	0.017	0.075
PMST61	PM Stack Conveyor	PM/PM ₁₀	0.034	0.150
		PM _{2.5}	0.007	0.030
BBV26	Blender Fill Baghouse	PM/PM ₁₀	0.004	0.019
		PM _{2.5}	0.001	0.004
SFS38	FM Stack	PM/PM ₁₀	0.069	0.30
		PM _{2.5}	0.014	0.06
PSE73	Stack No. 1 Conveyor	PM/PM ₁₀	0.069	0.30
		PM _{2.5}	0.014	0.06

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PMFH77	PM Stack Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
MM1-29	PS1 Mix Baghouse	PM/PM ₁₀	0.004	0.019
		PM _{2.5}	0.001	0.004
PS1TH30	PS1 Conveyor Baghouse	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
RM1-31	PS1 Sizer Baghouse	PM/PM ₁₀	0.004	0.019
		PM _{2.5}	0.001	0.004
MM2BV33	PS2 Mixer Baghouse	PM/PM ₁₀	0.004	0.019
		PM _{2.5}	0.001	0.004
RM2-34	PS2 Sizer Baghouse	PM/PM ₁₀	0.004	0.019
		PM _{2.5}	0.001	0.004
S5SHA72	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5SHB78	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5SHC101	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5SHD102	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5SHE103	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019

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S5SHF104	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5SHG105	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5SHH106	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5SHG107	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5SHG108	PS5 Conveyor	PM/PM ₁₀	0.021	0.094
		PM _{2.5}	0.004	0.019
S5TH75	PS5 Conveyor	PM/PM ₁₀	0.029	0.125
		PM _{2.5}	0.006	0.025
S5RH76	PS5 Conveyor	PM/PM ₁₀	0.018	0.079
		PM _{2.5}	0.004	0.016
CBFA64	Bunker Fugitives	PM	0.062	0.002
MSP79	Concrete Storage Pad (5)	PM	-	0.163
PMTH120	PM Stack Conveyor #2	PM/PM ₁₀	0.193	0.422
		PM _{2.5}	0.039	0.084
Pilot Plant				
SFH44	Sizer Baghouse	PM/PM ₁₀	0.031	0.031
		PM _{2.5}	0.006	0.006
PPPP48	Bulk Fill Baghouse	PM/PM ₁₀	0.002	0.002
		PM _{2.5}	0.0004	0.0004
ACM2-83	Sizer Baghouse	PM	0.060	0.06
PPBGS84	Conveyor Discharge	PM	0.092	0.207

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MTS39	Conveyor Baghouse	PM	0.021	0.043
ACMD46	Sizer Baghouse	PM	0.06	0.06
TPU10	Oxidizer	NO _x	0.445	0.411
		CO	0.011	0.029
		VOC	0.001	0.003
		PM ₀	0.034	0.122
		SO ₂	0.008	0.017
TPU80	Oxidizer	NO _x	0.787	0.713
		CO	0.019	0.045
		VOC	0.001	0.004
		PM	0.059	0.215
		SO ₂	0.014	0.03
TPUBS81	R and D Preconditioner Burner	NO _x	0.011	0.049
		CO	0.005	0.021
		VOC	0.0007	0.003
		PM	0.0009	0.004
		SO ₂	0.0001	0.0003
Graphite Production				
S1DC36	S1 Baghouse	PM/PM ₁₀	0.763	3.34
		PM _{2.5}	0.15	0.67
S1MT51	Storage Hopper Baghouse	PM/PM ₁₀	0.068	0.297
		PM _{2.5}	0.014	0.059
BFM1-17	Bake Furnace M-1	NO _x	1.0	2.2
		CO	1.4	3.1
		VOC	0.4	0.88

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		PM/PM ₁₀	0.02	0.04
		PM _{2.5}	0.004	0.008
		SO ₂	0.76	1.8
		H ₂ S	0.005	0.011
		COS	0.22	0.48
BFM2-18	Bake Furnace M-2	NO _x	1.0	2.2
		CO	1.4	3.1
		VOC	0.4	0.88
		PM/PM ₁₀	0.02	0.04
		PM _{2.5}	0.004	0.008
		SO ₂	0.76	1.8
		H ₂ S	0.005	0.011
		COS	0.22	0.48
BFM3-19	Bake Furnace M-3	NO _x	1.0	2.2
		CO	1.4	3.1
		VOC	0.4	0.88
		PM/PM ₁₀	0.02	0.04
		PM _{2.5}	0.004	0.008
		SO ₂	0.76	1.8
		H ₂ S	0.005	0.011
		COS	0.22	0.48
BFM4-20	Bake Furnace M-4	NO _x	1.3	2.8
		CO	1.9	4.2
		VOC	0.5	1.1
		PM/PM ₁₀	0.03	0.05
		PM _{2.5}	0.006	0.010

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		SO ₂	0.78	1.88
		H ₂ S	0.007	0.015
		COS	0.29	0.635
BFS1-21	Bake Furnace S-1	NO _x	0.339	0.584
		CO	0.37	0.63
		VOC	0.017	0.03
		PM/PM ₁₀	0.09	0.17
		PM _{2.5}	0.018	0.034
		SO ₂	0.31	0.63
		H ₂ S	0.0084	0.011
		COS	0.001	0.004
BFS2-90	Bake Furnace S-2 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BFS3-91	Bake Furnace S-3 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018

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		COS	0.001	0.0044
BFS4-87	Bake Furnace S-4 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BFOX3-74	Bake Furnace S-5 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BFS6-88	Bake Furnace S-6 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BFOX2-63	Bake Furnace S-7 Oxidizer	NO _x	0.54	0.94

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		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BFS8-89	Bake Furnace S-8 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BFS9-92	Bake Furnace S-9 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BFS10-93	Bake Furnace S-10 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04

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		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BFS11-94	Bake Furnace S-11 Oxidizer	NO _x	0.54	0.94
		CO	0.59	1.02
		VOC	0.027	0.04
		PM/PM ₁₀	0.14	0.27
		PM _{2.5}	0.028	0.054
		SO ₂	0.48	1.01
		H ₂ S	0.013	0.018
		COS	0.001	0.0044
BGDC4	"A" Graphitizer Baghouse	PM/PM ₁₀	0.257	1.126
		PM _{2.5}	0.051	0.225
BGTVS5	"A" Graphitizer Hopper Baghouse	PM	0.017	0.001
GSS3	"A" Graphitizer Scrubber	H ₂ S	0.00025	0.0005
HGTDC2	"B" Graphitizer Baghouse	PM/PM ₁₀	0.257	0.514
		PM _{2.5}	0.051	0.103
HGIS6	"B" Graphitizer Oxidizer	NO _x	0.011	0.049
		CO	0.0048	0.021
		VOC	0.0007	0.0029
		PM/PM ₁₀	3.8	9.8
		PM _{2.5}	0.76	1.96
		SO ₂	5.1	12.5
		H ₂ S	0.022	0.04

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		FeSO ₄	0.147	0.418
CGRAPH59	“C” Graphitizer Oxidizer	NO _x	0.016	0.07
		CO	0.007	0.03
		VOC	0.001	0.004
		PM/PM ₁₀	5.0	14.6
		PM _{2.5}	1.0	2.92
		SO ₂	6.7	18.8
		H ₂ S	0.029	0.060
		FeSO ₄	0.735	2.575
DGRAPH85	“D” Graphitizer Scrubber	NO _x	0.016	0.07
		CO	0.007	0.03
		VOC	0.001	0.004
		PM	0.005	0.023
		SO ₂	0.25	1.00
		H ₂ S	0.011	0.029
		FeSO ₄	0.096	0.272
DGDC86	“D” Graphitizer Baghouse	PM/PM ₁₀	0.857	3.75
		PM _{2.5}	0.171	0.75
Post-processing Operations				
SPC12	SP Processes Scrubber	Cl ₂	0.14	0.61
BGVH53	BG Hood	VOC	0.18	0.01
VPE54	E2 and BG Vacuum Pump	VOC	2.67	0.62
BGDO56	BG Oven	VOC	0.5	1.0

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HBF8	Harper Furnace Oxidizer	NO _x	0.031	0.136
		CO	0.026	0.114
		VOC	0.002	0.0075
		PM	0.002	0.01
		SO ₂	0.0002	0.001
		HCl	5.1	0.87
		P ₂ O ₅	2.5	0.43
SF9	Stewart Furnace	NO _x	0.03	0.13
		CO	0.025	0.11
		VOC	0.002	0.0072
		PM	0.002	0.01
		SO ₂	0.0002	0.0008
KILNS82	SC Kilns	CO	0.65	2.50
		PM	0.08	0.31
DVCVC117	Ceramic Kilns	PM	0.19	0.32
SIC98	SIC Process Scrubber	PM ₁₀	0.024	0.09
		HCl	0.12	0.44
SIC99	SIC Process Scrubber	PM ₁₀	0.024	0.09
		HCl	0.12	0.44
BGDO118	BG Oven	VOC	0.50	1.00
BGDO119	BG Oven	VOC	0.50	1.00
General Dust Collection/Housekeeping				
JSDC62	East Baghouse	PM	1.54	6.17
FESDC35	South Baghouse	PM	0.643	2.57
PPNDC43	PP North Baghouse	PM/PM ₁₀	0.21	0.939

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		PM _{2.5}	0.042	0.188
PPWDC47	PP West Baghouse	PM/PM ₁₀	0.29	1.276
		PM _{2.5}	0.058	0.255
PPSDC45	PP South Baghouse	PM/PM ₁₀	0.257	1.126

- (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 Title 30 Texas Administrative Code § 101.1
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
 PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
 CO - carbon monoxide
 H₂S - hydrogen sulfide
 COS - carbonyl sulfide
 FeSO₄ - ferrous sulfate
 P₂O₅ - phosphorus pentoxide
 HCl - hydrogen chloride
 Cl₂ - chlorine
- (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.

Date: January 9, 2013