Emission Sources - Maximum Allowable Emission Rates

Permit Number 7719A

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-CT3	Cooling Tower	VOC	0.23	0.99
F-R1	Process Fugitives (5)(6)	VOC	0.16	0.70
		H_2S	0.01	0.01
	Process Fugitives (5)(7)	VOC	0.88	3.84
		H_2S	0.06	0.25
F-R2	Product Packaging Stations	PM (11)	0.01	0.02
		PM (12)	0.01	0.04
H-8	No. 1 Heater	CO	2.64	11.54
		NO_x	2.16	9.46
		SO_2	0.87	1.92
		VOC	0.17	0.76
		PM_{10}	0.24	1.04
H-9	No. 2 Heater	CO	2.64	11.54
		NO_x	2.16	9.46
		SO_2	0.87	1.92
		VOC	0.17	0.76
		PM_{10}	0.24	1.04
F-R4	Maintenance – Unplugging Reactor Dump Line	VOC	29.99	0.18
R-V1	Acetic Acid Scrubber	VOC	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

R-V2	Crude NMP Surge Tank Condenser Scrubber	VOC	4.16	3.23
		H_2S	2.80	4.80
R-V3	Cure Vessel Vent Scrubber YA25	VOC	0.48	1.04
		PM_{10}	0.01	0.03
		PM	0.06	0.28
R-V5	Cure Vessel Vent Scrubber YA24	VOC	0.48	1.04
		PM_{10}	0.01	0.03
		PM	0.06	0.28
R-V8	A Dehydration Scrubber	VOC	0.01	0.03
		H_2S	0.01	0.01
R-V11	Heat Treater ScrubberVent	H_2S	0.01	0.02
R-V12	Process Water Sump	VOC	0.01	0.04
		H_2S	0.05	0.24
R-V14	A Dryer Vent	VOC	4.03	10.93
		PM_{10}	1.21	5.28
		Acetone	0.27	0.74
R-V15	A1 Belt Filter	H_2S	0.01	0.01
R-V16	B Dryer Vent	VOC	4.02	10.92
		PM_{10}	0.24	1.03
		Acetone	0.27	0.74

Emission Sources - Maximum Allowable Emission Rates

R-V17	B Dehydration Scrubber	VOC	0.01	0.03
		H_2S	0.01	0.01
R-V19	A2 Belt Filter Vent	H_2S	0.01	0.01
R-V20	B1 Belt Filter Vent	H_2S	0.01	0.01
R-V21	B2 Belt Filter Vent	H_2S	0.01	0.01
R-V22	Polymer Dryer Vent	VOC	0.11	0.48
R-V23	Caustic Scrubber 95-60020	VOC	1.01	4.42
		H_2S	1.84	2.94
R-V24	Wash System Scrubber	VOC	0.02	0.01
		H_2S	0.01	0.01
T-95-28	Lights Column Phase Separator	VOC	0.07	0.33
		H_2S	0.01	0.01
T-95-114	NMP Storage Tank	VOC	0.07	0.01
T-95-136	B1 Feed Filter Tank	VOC	0.12	0.45
		H_2S	0.12	0.45
T-95-160	B Slurry Tank	VOC	0.01	0.04
		H_2S	0.05	0.21
T-95-167	Crude NMP Tank (M-6) and NMP Heavies Tank (M-5)	VOC	0.10	0.02
T-95-168	A1 Feed Filter Tank	VOC	0.12	0.45
		H_2S	0.12	0.45
T-95-169A	S. Fresh/Recycle NMP	VOC	0.07	0.01
T-95-169B	N. Fresh/Recycle NMP	VOC	0.07	0.01

Emission Sources - Maximum Allowable Emission Rates

T-95-170	NaSH Storage Tank	H_2S	2.96	0.67
T-95-YA15	A Slurry Tank	VOC	0.01	0.04
		H_2S	0.05	0.21
T-95-182	NaSH Waste/Recycle Tank	H_2S	2.84	0.03
R-LR1	Truck Loading at Tank N-2 (13)	VOC	0.46	0.01
T-95-Y-044	No. 1 Supersack Silo	PM_{10}	0.02	0.08
T-95-Y-076	No. 2 Supersack Silo	PM_{10}	0.03	0.12
T-95-Y-084	No. 3 Supersack Silo	PM_{10}	0.03	0.12
T-95-Y-046	No. 1 Valve Bag Tank	PM_{10}	0.02	0.08
T-95-Y-091	No. 2 Valve Bag Tank	PM_{10}	0.02	0.08
T-95-40140	No. 4 Supersack Silo	PM_{10}	0.06	0.25
T-95-40141	No. 5 Supersack Silo	PM_{10}	0.11	0.49
T-95-40142	No. 6 Supersack Silo	PM_{10}	0.17	0.74
H-10	No. 3 Heater	NO_x	2.94	12.86
		CO (8)	8.65	29.13
		CO (9)(10)	8.65	27.98
		VOC	0.45	1.98
		SO_2	1.24	2.71
		PM_{10}	0.63	2.74
R-LR2	Truck Loading at Quench Heavies Storage Tank	VOC	0.19	0.01
FWW8	Brine Filter Press	VOC	0.01	0.01
		H_2S	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

FWW9	Dry Weather Sump	H_2S	0.03	0.10
T-95-70060	Post-Filtration Brine Tank	VOC	0.01	0.01
		H_2S	0.01	0.01
T-95-80014	Hot Oil Quench Storage Tank	VOC	0.27	0.01
TN-02	Waste NMP Heavies Tank (13)	VOC	0.05	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)	CO	-	carbon monoxide
	H_2S	-	hydrogen sulfide
	NO_X	-	total oxides of nitrogen
	PM	-	total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
	PM_{10}	-	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
	SO_2	-	sulfur dioxide
	VOC	-	volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
(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)	Fugitive emissions until start-up of Ryton® PPS Plant expansion.		
(7)	Fugitive emission after start-up of Ryton® PPS Plant expansion.		
(8)	January 1 to December 31, 2012.		
(9)	January 1 to December 31, 2013.		
(10)	From January 1, 2014 and on.		
(11)	Emissions before start-up of Ryton® PPS Plant expansion.		
(12)	Emissions after start-up of Ryton® PPS Plant expansion.		
(13)	Incorporated by reference, authorized by Standard Exemption Number 51.		

Date: September 28, 2012