

# 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)	VOC	0.95	4.16
		H <sub>2</sub> S	0.02	0.11
F-R2	Product Packaging	PM	< 0.01	0.04
		PM <sub>10</sub>	< 0.01	0.04
		PM <sub>2.5</sub>	< 0.01	0.04
H-8	No. 1 Hot Oil Furnace	CO	2.64	11.54
		NO <sub>x</sub>	2.16	9.46
		SO <sub>2</sub>	0.87	1.92
		VOC	0.17	0.76
		PM	0.24	1.04
		PM <sub>10</sub>	0.24	1.04
		PM <sub>2.5</sub>	0.24	1.04
H-9	No. 2 Hot Oil Furnace	CO	2.64	11.54
		NO <sub>x</sub>	2.16	9.46
		SO <sub>2</sub>	0.87	1.92
		VOC	0.17	0.76
		PM	0.24	1.04
		PM <sub>10</sub>	0.24	1.04
		PM <sub>2.5</sub>	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
R-V2	Crude NMP Surge Tank Condenser Scrubber	VOC	4.16	3.23
		H <sub>2</sub> S	2.80	4.80
R-V3	Cure Vessels 3 and 4 Vent Scrubber YA25 West	VOC	0.47	1.03
		PM	0.06	0.28
		PM <sub>10</sub>	< 0.01	0.03
		PM <sub>2.5</sub>	< 0.01	0.03

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R-V5	Cure Vessels 1 and 2 Vent Scrubber YA24 East	VOC	0.47	1.03
		PM	0.06	0.28
		PM <sub>10</sub>	< 0.01	0.03
		PM <sub>2.5</sub>	< 0.01	0.03
R-V8	A Dehydration Scrubber	VOC	< 0.01	0.03
		H <sub>2</sub> S	< 0.01	0.01
R-V11	Heat Treater Scrubber Vent	H <sub>2</sub> S	< 0.01	0.03
R-V12	Process Water Sump	VOC	0.01	0.04
		H <sub>2</sub> S	0.05	0.23
R-V14	B Dryer Vent North	VOC	0.55	1.53
		PM	1.21	5.28
		PM <sub>10</sub>	1.21	5.28
		PM <sub>2.5</sub>	1.21	5.28
		Acetone	0.27	0.74
R-V15	A1 Belt Filter	H <sub>2</sub> S	< 0.01	< 0.01
R-V16	A Dryer Vent	VOC	0.55	1.53
		PM	0.24	1.03
		PM <sub>10</sub>	0.24	1.03
		PM <sub>2.5</sub>	0.24	1.03
		Acetone	0.27	0.74
R-V17	B Dehydration Scrubber	VOC	< 0.01	0.03
		H <sub>2</sub> S	< 0.01	0.01
R-V19	A2 Belt Filter Vent	H <sub>2</sub> S	< 0.01	< 0.01
R-V20	B1 Belt Filter Vent	H <sub>2</sub> S	< 0.01	< 0.01
R-V21	B2 Belt Filter Vent	H <sub>2</sub> S	< 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 <sub>2</sub> S	1.84	2.94
R-V24	Wash System Scrubber	VOC	0.02	< 0.01
		H <sub>2</sub> S	< 0.01	< 0.01
T-95-28	Lights Column Phase Separator	VOC	0.07	0.33
		H <sub>2</sub> S	< 0.01	< 0.01
T-95-114	NMP Storage Tank	VOC	0.18	< 0.01
T-95-136	B1 Feed Filter Tank	VOC	0.12	0.45
		H <sub>2</sub> S	0.12	0.45
T-95-160	B Slurry Tank	VOC	< 0.01	0.04

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		H <sub>2</sub> S	0.05	0.21
T-95-167	Crude NMP Tank (M-6) and NMP Heavies Tank (M-5)	VOC	0.28	< 0.01
T-95-168	A1 Feed Filter Tank	VOC	0.12	0.45
		H <sub>2</sub> S	0.12	0.45
T-95-169A	S. Fresh/Recycle NMP	VOC	0.18	< 0.01
T-95-169B	N. Fresh/Recycle NMP	VOC	0.18	< 0.01
T-95-170	NaSH Storage Tank	H <sub>2</sub> S	1.78	0.20
T-95-YA15	A Slurry Tank	VOC	< 0.01	0.04
		H <sub>2</sub> S	0.05	0.21
T-95-182	NaSH Waste/Recycle Tank	H <sub>2</sub> S	1.33	0.03
T-95-Y-044	No. 1 Supersack Silo	PM	0.02	0.08
		PM <sub>10</sub>	0.02	0.08
		PM <sub>2.5</sub>	0.02	0.08
T-95-Y-076	No. 2 Supersack Silo	PM	0.03	0.12
		PM <sub>10</sub>	0.03	0.12
		PM <sub>2.5</sub>	0.03	0.12
T-95-Y-084	No. 3 Supersack Silo	PM	0.03	0.12
		PM <sub>10</sub>	0.03	0.12
		PM <sub>2.5</sub>	0.03	0.12
T-95-Y-046	No. 1 Valve Bag Tank	PM	0.02	0.08
		PM <sub>10</sub>	0.02	0.08
		PM <sub>2.5</sub>	0.02	0.08
T-95-Y-091	No. 2 Valve Bag Tank	PM	0.02	0.08
		PM <sub>10</sub>	0.02	0.08
		PM <sub>2.5</sub>	0.02	0.08
T-95-40140	No. 4 Supersack Silo	PM	0.06	0.25
		PM <sub>10</sub>	0.06	0.25
		PM <sub>2.5</sub>	0.06	0.25
T-95-40141	No. 5 Supersack Silo	PM	0.11	0.49
		PM <sub>10</sub>	0.11	0.49
		PM <sub>2.5</sub>	0.11	0.49
T-95-40142	No. 6 Supersack Silo	PM	0.17	0.74
		PM <sub>10</sub>	0.17	0.74

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		PM <sub>2.5</sub>	0.17	0.74
H-10	No. 3 Hot Oil Furnace	NO <sub>x</sub>	2.94	12.86
		CO	8.65	27.98
		VOC	0.45	1.98
		SO <sub>2</sub>	1.24	2.71
		PM	0.63	2.74
		PM <sub>10</sub>	0.63	2.74
		PM <sub>2.5</sub>	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 <sub>2</sub> S	< 0.01	< 0.01
FWW9	Dry Weather Sump	H <sub>2</sub> S	0.03	0.10
T-95-80014	Hot Oil Quench Storage Tank	VOC	0.19	< 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<sub>2</sub>S - hydrogen sulfide
  - NO<sub>x</sub> - total oxides of nitrogen
  - 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
  - SO<sub>2</sub> - 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.

Date: August 5, 2019