Emission Sources – Maximum Allowable Emission Rates

Permit Number 21918

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)
Compliance Caps	Emission Caps	VOC	(5)	396.07
		Group A VOC Cap (6)	162.32	(7)
		Group B VOC Cap (8)	28.73	(7)
		Group C VOC Cap (9)	39.17	(7)
		Group D VOC Cap (10)	1.04	(7)
		Ethyl Mercaptan (11)	5.34	(7)
		Isopropyl Mercaptan (11)	3.64	(7)
		n-Propyl Mercaptan (11)	3.53	(7)
		n-Butyl Mercaptan (11)	2.54	(7)
		t-Butyl Mercaptan (11)	2.61	(7)
		s-Butyl Mercaptan (11)	3.21	(7)
		Benzyl Mercaptan (11)	0.42	(7)
		1,2-Ethanedithiol (11)	0.74	(7)
		Dimethyl Sulfide (11)	3.41	(7)
		Methyl Ethyl Sulfide (11)	2.55	(7)
		Acetone (12)	1.81	(7)
F-M2A	Sulfolene Handling	SO_2	4.88	10.88
		VOC	2.99	6.67
F-M2A-MSS	Sulfolene - MSS (13)	SO_2	1.31	0.01
		VOC	0.81	0.01
Cooling Towers				
F-CT1	Main Cooling Tower	VOC	0.84	3.68
		H_2S	0.84	3.68

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F-CT2	Unit 5 Cooling Tower	VOC	0.13	0.55
Flares				
FL-1	North Flare (H_2S)	VOC	10.55	28.86
		H_2S	4.26	5.84
		NO_x	11.47	18.75
		SO_2	413.79	558.86
		CO	24.19	37.38
FL-2	South Flare (HC)	VOC	53.04	44.27
		H_2S	0.80	0.19
		NO_x	3.27	3.46
		SO_2	78.45	18.99
		CO	16.69	31.32
FL-1/FL-2	Flare Sub-cap	VOC	63.59	73.13
		H_2S	5.06	5.84
		NO_x	14.74	22.21
		SO_2	492.23	558.86
		CO	40.88	68.70
Fugitives				
F-SP4	Fugitive Emissions (14)	VOC	6.01	15.16
		H_2S	0.05	0.24
		SO_2	<0.01	0.02
F-SP5	Railcar Cleaning Fugitives (14)	VOC	0.05	0.01
F-C1	CPU Soltrol Fugitives (14)	VOC	2.10	9.22
F-C10	CPU Col 10 Fugitives (14)	VOC	0.06	0.27
		H_2S	0.04	0.16
F-C11	CPU Col 11 Fugitives (14)	VOC	0.09	0.42
		H_2S	0.07	0.29
F-C12	CPU Col 12 Fugitives (14)	VOC	0.01	0.06
F-C2	CPU H_2S Purification (14)	VOC	0.02	0.09
		H_2S	0.54	2.36
F-C3	CPU No. 2UV Fugitives (14)	VOC	3.40	0.77
		H_2S	0.12	0.52
F-C4	CPU No. 2 Filtrol	VOC	0.57	2.51

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		H_2S	0.15	0.67
F-C5	CPU No. 1 Filtrol Fugitives (14)	VOC	0.43	1.83
		H_2S	0.08	0.37
F-C6	CPU IC3SH Fugitives (14)	VOC	0.03	0.11
		H_2S	0.02	0.10
F-C8	CPU No. 1 UV Fugitives (14)	VOC	0.06	0.26
		H_2S	0.18	0.81
F-C9	CPU Col 3 & 4 Fugitives (14)	VOC	0.05	0.23
		H_2S	0.02	0.08
F-M2	MPU Sulfolane Fugitives (14)	VOC	4.93	21.65
		SO_2	0.01	0.06
		H_2S	0.39	1.72
F-M5	MPU R-17 Fugitives (14)	VOC	0.63	2.74
		H_2S	0.02	0.09
F-M9	MPU Unit 5.2 Fugitives (14)	VOC	10.59	46.37
F-S1	SU R2 Fugitives (14)	VOC	0.67	2.92
F-S3	SU R1 Fugitives (14)	VOC	0.68	2.99
F-SP1	Shipping/Blending Fugitives (14)	VOC	4.09	17.92
F-SP2	Blending Fugitives (14)	VOC	5.70	24.98
F-U45	MeSH Fugitives (14)	VOC	0.51	2.19
		H_2S	0.29	1.25
Wastewater				
FWW1	WW Sump East of Services Building	VOC	0.36	1.58
FWW2	WW Secondary Waste Sump	VOC	0.24	1.04
FWW3	WW Final Separator	VOC	2.53	11.08
FWW4	WW Philtex Stormwater Pond	VOC	0.16	0.67
FWW6	WW Unit 5 Oil/Water Separator	VOC	1.17	5.12
FWW7	WW Drains & Trenches	VOC	0.56	2.44
FWW10	WW Pace’s Pit	VOC	0.14	0.63
Heaters				

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H-2	CPU Dutch Oven	VOC	0.01	0.02
		NO_x	0.10	0.43
		SO_2	<0.01	<0.01
		CO	0.08	0.36
		PM	0.01	0.03
		PM10	0.01	0.03
		PM2.5	0.01	0.03
H-3	CPU East Downtherm Furnace	VOC	0.15	0.65
		NO_x	2.70	11.81
		SO_2	0.02	0.07
		CO	2.26	9.92
		PM	0.20	0.90
		PM10	0.20	0.90
		PM2.5	0.20	0.90
Vents				
M2A1	Sulfolene Flaker Scrubber RTO	VOC	0.60	2.49
		NO_x	1.00	4.18
		SO_2	0.05	0.21
		CO	5.93	24.75
		PM	0.01	0.05
		PM10	0.01	0.05
		PM2.5	0.01	0.05
M2A1 MSS	Sulfolene Flaker Scrubber RTO MSS	VOC	0.12	0.02
		NO_x	1.00	0.21
		SO_2	< 0.01	<0.01
		CO	5.93	1.23
		PM	0.01	<0.01
		PM10	0.01	<0.01
		PM2.5	0.01	<0.01
M2C	Sulfolane Heavy Column Vent	VOC	0.01	0.01
M2D	Sulfolane Sludge Tank Vent	VOC	0.01	0.01
M2E	Sulfolane Sludge Filter	VOC	0.01	0.01

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C2A	CPU H2S Vent Stack	VOC	0.01	0.03
		H_2S	0.47	2.08
C2B	CPU Soltrol Coolant	VOC	0.20	0.88
		H_2S	0.20	0.88
Loading				
SP1	Dock 2 Drum Loading Vent	VOC	35.03	3.86
SP2	Dock 2 Tank Vent	VOC	11.03	0.71
SP3	Mercaptan Dock Scrubber	VOC	0.33	0.93
SP4	Dock 1 Small Packaging	VOC	2.70	0.59
SP5A	Rail Loading	VOC	15.54	12.55
SP5B DRUM	Drum Filling	VOC	9.28	0.06
SP5B	Truck Loading	VOC	0.48	45.38
SP5C	Vapor Combustor	VOC	1.46	4.29
		NO_x	0.61	1.71
		CO	0.30	0.86
		SO_2	<0.01	<0.01
		PM	0.02	0.06
		PM10	0.02	0.06
		PM2.5	0.02	0.06
SP6B	Dock 1 Cylinder	VOC	9.69	1.94
TB-13	SO_2 Unloading Hose Vent	SO_2	0.64	0.01
Internal Floating Roof Tanks				
TE-03	Tank Storage	VOC	0.35	2.01
TE-04	Tank Storage	VOC	0.35	2.01
TE-05	Tank Storage	VOC	0.35	2.01
TF-04	Tank Storage	VOC	0.33	2.26
TF-09	Tank Storage	VOC	0.33	2.26
TF-24	Tank Storage	VOC	0.35	2.01
TH-06	Tank Storage	VOC	0.24	1.88
TH-20	Tank Storage	VOC	0.21	2.00
Atmospheric Tanks				

Emission Sources - Maximum Allowable Emission Rates

TB-32	Storage Tank	VOC	1.31	0.07
TB-33	Storage Tank	VOC	1.09	0.04
TB-40	Storage Tank	VOC	0.58	0.08
TB-41	Storage Tank	VOC	0.56	0.08
TB-44	Storage Tank	VOC	0.59	0.04
TB-48	Storage Tank	VOC	0.65	0.13
TE-01	Tank Storage	VOC	18.59	4.40
TE-02	Tank Storage	VOC	18.59	4.40
TE-06	Tank Storage	VOC	18.59	4.40
TF-01	Tank Storage	VOC	0.73	0.45
TF-02	Tank Storage	VOC	0.73	6.01
TF-03	Tank Storage	VOC	0.73	3.30
TF-05	Tank Storage	VOC	0.45	0.13
TF-06	Tank Storage	VOC	0.73	0.23
TF-07	Tank Storage	VOC	0.73	0.23
TF-08	Tank Storage	VOC	0.73	0.66
TF-10	Tank Storage	VOC	0.73	0.24
TF-11	Tank Storage	VOC	5.24	0.76
TF-12	Tank Storage	VOC	0.72	0.60
TF-13	Tank Storage	VOC	0.73	0.23
TF-14	Tank Storage	VOC	0.73	0.14
TF-23	Tank Storage	VOC	7.85	1.45
TF-28	Tank Storage	VOC	1.17	0.06
TH-01	Tank Storage	VOC	1.11	0.33
TH-03	Tank Storage	VOC	1.11	0.33
TH-04	Tank Storage	VOC	0.33	1.10
TH-08	Tank Storage	VOC	1.04	0.64
TJ-36	Tank Storage	VOC	0.01	0.01
TJ-37	Tank Storage	VOC	0.01	0.01
TL-01	Tank Storage	VOC	0.73	0.05
TL-02	Tank Storage	VOC	0.73	0.09
TL-03	Tank Storage	VOC	1.11	0.28
T-95-4067/4069	Downtherm Holding	VOC	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

Maintenance				
F-MNT	Maintenance	VOC	0.21	0.36
MSS-PREP	MPU Unit 5.2 MSS to Atmosphere	VOC	0.03	<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) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
CO - carbon monoxide
H_2S - hydrogen sulfide
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) The VOC hourly caps are restricted on a pollutant by pollutant basis.
(6) Total hourly emissions of any single compound listed on Approved Chemical List, Group A from the sources listed on Attachment C, Emission Caps List, are restricted to this emission rate.
(7) Total VOC emissions from all sources listed on Attachment C, Emissions Caps List, are restricted to the annual value represented under the VOC cap.
(8) Total hourly emissions of any single compound listed on Approved Chemical List, Group B from the sources listed on Attachment C, Emissions Cap List, are restricted to this emission rate.
(9) Total hourly emissions of any single compound listed on Approved Chemical List, Group C from the sources listed on Attachment C, Emissions Cap List, are restricted to this emission rate.
(10) Total hourly emissions of any single compound listed on Approved Chemical List, Group D from the sources listed on Attachment C, Emissions Cap List, are restricted to this emission rate.
(11) Total hourly emissions of this compound from the sources listed on Attachment C, Emissions Caps List, are restricted to this emission rate.
(12) Acetone is used as part of an automatic cleaning sequence for certain types of on-line analyzers employed in various locations throughout the facility.
(13) This permit authorizes emissions which the company has represented for maintenance, startup, and shutdown activities associated with Sulfolene processing: Shutdown of Sulfolene unit. These shutdown events shall not exceed 12 events per rolling 12 months, or a total of 3 hours per year. A record shall be made of each shutdown event.
(14) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.

Date:
January 26, 2018