

EMISSION SOURCES - EMISSION CAPS AND INDIVIDUAL EMISSION LIMITATIONS

Permit Number 21918

This table lists the maximum allowable emission caps or 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. 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)	<u>Emission Rates *</u>	
			lb/hr	TPY**
See Attachment C	Emission Caps:	NO _x	12.64	40.55
		CO	24.4	70.5
		SO ₂	451	
	513.58	PM	1.28	1.60
		H ₂ S	13.77	43.07
		VOC	(5)	
	496.47	Group A VOC Cap (6)	154.3	(7)
		Group B VOC Cap (8)	27.9	(7)
		Group C VOC Cap (9)	36.60	(7)
		Group D VOC Cap (10)	0.81	(7)
		Ethyl Mercaptan (11)	5.34	(7)
		Isopropyl Mercaptan (11)	3.64	(7)
		n Propyl Mercaptan (11)	3.52	(7)
		n Butyl Mercaptan (11)	2.55	(7)
		t Butyl Mercaptan (11)	3.02	(7)
		s Butyl Mercaptan (11)	3.23	(7)
		Benzyl Mercaptan (11)	0.42	(7)
		1,2 Ethanedithiol (11)	0.74	(7)
		Dimethyl Sulfide (11)	2.80	(7)
		Methyl Ethyl Sulfide (11)	2.55	(7)
		Acetone (12)	1.81	5.0
	F-M2A	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

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- (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) NO_x - total oxides of nitrogen
CO - carbon monoxide
SO₂ - sulfur dioxide
PM - particulate matter, suspended in the atmosphere, including PM₁₀
PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
H₂S - hydrogen sulfide
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (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, Emission 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, Emission Caps 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, Emission Caps 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, Emission Caps List are restricted to this emission rate.
- (11) Total hourly emissions of this compound from the sources listed on Attachment C, Emission 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.

* Emission rates are based on a continuous operating schedule: 8,760 hours/year

** Compliance with annual emission caps and individual annual emission limitations is based on a rolling 12-month period.

Dated: August 22, 2011