

# EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 27935

[435760] Draft!

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. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit. (1/11)

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
4	TG Boiler	Formaldehyde	0.13	0.09
		Methanol	0.46	1.49
		Phenol	0.01	0.01
		Other VOC	0.07	0.28
		NO <sub>x</sub>	0.02	0.01
		CO	1.16	4.99
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.01	0.01
		SO <sub>2</sub>	0.01	0.01
5	Cleaver Brooks	VOC	0.47	2.05
		NO <sub>x</sub>	3.46	15.14
		SO <sub>x</sub>	0.03	0.13
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.29	1.28
		CO	4.39	19.24
		Formaldehyde (6)	0.17	0.04
		Methanol (6)	0.14	0.20
		Phenol (6)	0.01	0.01
		VOC (6) (7)	0.53	0.40
6	Superior Boiler	VOC	0.16	0.69
		NO <sub>x</sub>	2.86	12.52
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.22	0.95
		CO	2.40	10.52
		SO <sub>2</sub>	0.02	0.08

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			lb/hr	TPY**
7	Phenol Storage Tank 1	Phenol	0.07	0.01
9	Methanol Storage Tank	Methanol	0.42	1.27
11	Formaldehyde Plant Start-Up Bypass Relief Valve (5)	Formaldehyde	2.24	0.07
		Methanol	14.11	0.46
		VOC	4.52	0.15
		CO	50.81	1.65
14 - Pre Rx B	Urea Silo vent 1 (Reactor A & B Baghouse) Pre-construction of Reactor B	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.26	1.13
14 - Pre Rx B	Urea Silo vent 1 (Reactor A & B Baghouse) Post-construction of Reactor B	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.10	0.45
15	Urea Silo Vent 2 (Reactor C Baghouse)	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.26	1.13
21	Resin Storage Tanks Vents	Phenol	0.50	0.04
		Formaldehyde	0.37	0.09
		Methanol	7.50	0.79
		Methylene Glycol	0.04	0.01
		Hemiformals	0.42	0.07
PM_FUG	Fugitive Particular matter	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	4.56	1.20
VAP_BAL	Formaldehyde Truck and Rail Loading	Formaldehyde	0.08	0.02
		Methanol	4.70	0.56
		MEA triazine	0.01	0.01
		MMA Triazine	0.49	0.02
		MEA	0.01	0.01
		Monomethylamine	0.32	0.31
22	MEA Storage Tank	MEA	0.07	0.01

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			lb/hr	TPY**
23	TEA Storage Tank (Wax)	TEA	0.01	0.01
RES_FUG	Fugitive Emissions from Resin Loading and Equipment Components 1.45	Formaldehyde	0.15	0.21
		Phenol		0.36
		Methanol	3.72	1.38
		MEA Triazine	0.01	0.01
		Methylene Glycol	0.01	0.01
		Hemiformals	0.20	0.11
		TEA	0.04	0.16
		MMA	0.01	0.03
		DEA	0.01	0.06
FORM_FUG	Formaldehyde Plant Fugitives	Formaldehyde I	0.12	0.54
		Methanol	0.11	0.50
FM_CT	Formaldehyde Cooling Tower Vent	Formaldehyde	0.01	0.01
		Methanol	0.08	0.22
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	1.84	4.06
24	TEA Storage Tank (Warehouse)	TEA	0.01	0.01
25	Distillate Tank #2 (Green Tank)	Formaldehyde	0.01	0.01
		Methanol	0.09	0.03
26	Wash Water Tank (Reactor A)	Formaldehyde	0.01	0.01
		Methanol	0.05	0.01
		Phenol	0.01	0.01
27	MEA-Based Triazine Storage Tanks	Methanol	6.96	0.17
		MEA Triazine	0.01	0.01
		MEA	0.01	0.01
LOADING	MMA and MMA Triazine	VOC	0.30	0.01

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			lb/hr	TPY**
	Loading			

- (1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
- (2) Specific point source names. For fugitive sources, use an area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code Section 101.1
  - NO<sub>x</sub> - total oxides of nitrogen
  - SO<sub>x</sub> - sulfur oxides
  - PM - particulate matter, suspended in the atmosphere, including PM<sub>10</sub>.
  - PM<sub>10</sub> - 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.
  - CO - carbon monoxide
  - MEA Monoethanolamine
  - TEA Triethanolamine
  - MMA Monomethanolamine
  - DEA Diethanolamine
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) Emissions authorized for 65 hrs/yr.
- (6) Emissions resulting from waste stream routed to EPN-5 for control in the event that EPN-4 or the Formaldehyde plant are not operational.
- (7) VOC emissions include routine VOC emissions resulting from combustion of fuel and from waste stream routed to boiler.

\* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

\_\_\_\_Hrs/day \_\_\_\_Days/week \_\_\_\_Weeks/year or 8,760 Hrs/year

\*\* Compliance with annual emission limits is based on a rolling 12-month period.

Dated\_\_\_\_\_