EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 27935

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.

AIR CONTAMINANTS DATA

Emission	Source Air Contaminant		Emission Rates *		
Point No. (1)	Name (2)		Name (3)	lb/hr	TPY**
4	TG Boiler Stack Vent (6)		Formaldehyde	0.33	0.25
	,	Metha	anol	0.49	1.48
		Pheno	ol	0.01	0.01
		VOC	0.07	0.28	
		NO_x	0.02	0.01	
		CO	1.16	4.99	
			PM_{10}	0.01	0.01
			SO ₂	0.01	0.01
5	Cleaver Brooks Boiler Stack Ven		VOC	0.47	2.05
		NO_x	3.46	15.14	
		SO_2	0.03	0.13	
		PM_{10}	0.29	1.28	
		СО	4.39	19.24	
5-MSS	Cleaver Brooks Boiler Stack Vent (6) Formaldehyde Methanol Phenol) Formaldehyde	0.01	0.01
				0.05	0.03
				0.01	0.01
		VOC		0.40	
		NO_x	3.46	2.59	
		CO	4.39	3.30	
			PM_{10}	0.29	0.22
			SO ₂	0.03	0.02
6	Superior Boiler		VOC	0.16	0.69
		NO_x	2.86	12.52	
		SO_2	0.02	80.0	
		PM_{10}	0.22	0.95	
		CO	2.40	10.52	
7	Phenol Storage Tanks Vents		Phenol	0.04	0.01
9	Methanol Storage Tank Vent		Methanol	1.05	1.14

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AIR CONTAMINANTS DATA

Point No. (1) Name (2) Name (3) Ib/hr TPY**	Emission	sion Source		Air Contaminant	Emission Rates *	
Relief Valve (6) Methanol 14.11 VOC 4.52 0.15 CO 50.81 1.65	Point No. (1)	Name (2)		Name (3)	lb/hr	TPY**
Relief Valve (6) Methanol 14.11 VOC 4.52 0.15 CO 50.81 1.65	. ,	•				
VOC 4.52 0.15 1.65	11	Formaldehyde Bypass		Formaldehyde	2.26	0.07
14 Urea Silo Vent 1, Pre-Reactor B(5) PM10 0.26 1.13 14 Urea Silo Vent 1, Post Reactor B (5) PM10 0.10 0.45 15 Urea Silo 2 PM10 0.26 1.13 21 Resin Storage Tanks Vents		Relief Valve (6)		Methanol	14.11	0.46
14 Urea Silo Vent 1, Pre-Reactor B(5) PM ₁₀ 0.26 1.13 14 Urea Silo Vent 1, Post Reactor B (5) PM ₁₀ 0.10 0.45 15 Urea Silo 2 PM ₁₀ 0.26 1.13 21 Resin Storage Tanks Vents Phenol 0.01 0.01 0.01 Methanol 2.12 0.02 Methylene Glycol 0.01 0.01 Hemiformals 0.05 0.01 PM_FUG Particulate Matter Fugitives (4) PM ₁₀ 4.56 1.20 FM_CT Formaldehyde Cooling Tower (4) Formaldehyde 0.08 0.22 RES_FUG Resin Production Fugitives (4) Formaldehyde 0.06 0.19 Methanol 0.08 0.22 RES_FUG Resin Production Fugitives (4) Formaldehyde 0.20 0.03 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.19 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54			VOC			
14 Urea Silo Vent 1, Post Reactor B (5) PM ₁₀ 0.10 0.45 15 Urea Silo 2 PM ₁₀ 0.26 1.13 21 Resin Storage Tanks Vents Formaldehyde 0.06 0.01 Methanol 2.12 0.02 Methylene Glycol 0.01 0.01 Hemiformals 0.05 0.01 PM_FUG Particulate Matter Fugitives (4) PM ₁₀ 4.56 1.20 FM_CT Formaldehyde Cooling Tower (4) Formaldehyde 0.06 0.22 RES_FUG Resin Production Fugitives (4) Formaldehyde 0.20 0.03 Phenol 0.06 0.19 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54			СО	50.81	1.65	
15 Urea Silo 2 PM ₁₀ 0.26 1.13	14	Urea Silo Vent 1, Pre-Reacto	r B(5)	PM ₁₀	0.26	1.13
Resin Storage Tanks Vents	14	Urea Silo Vent 1, Post React	or B (5)) PM ₁₀	0.10	0.45
Formaldehyde 0.06 0.01 Methanol 2.12 0.02 Methylene Glycol 0.01 0.01 Hemiformals 0.05 0.01 PM_FUG Particulate Matter Fugitives (4) PM ₁₀ 4.56 1.20 FM_CT Formaldehyde Cooling Tower (4) Formaldehyde 0.16 0.44 Methanol 0.08 0.22 RES_FUG Resin Production Fugitives (4) Formaldehyde 0.00 0.00 Phenol 0.06 0.19 Methanol 2.97 0.81 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54	15	Urea Silo 2		PM_{10}	0.26	1.13
Formaldehyde 0.06 0.01 Methanol 2.12 0.02 Methylene Glycol 0.01 0.01 Hemiformals 0.05 0.01 PM_FUG Particulate Matter Fugitives (4) PM ₁₀ 4.56 1.20 FM_CT Formaldehyde Cooling Tower (4) Formaldehyde 0.16 0.44 Methanol 0.08 0.22 RES_FUG Resin Production Fugitives (4) Formaldehyde 0.00 0.03 Phenol 0.06 0.19 Methanol 2.97 0.81 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54	21	Resin Storage Tanks Vents		Phenol	0.01	0.01
Methylene Glycol 0.01 0.01 Hemiformals 0.05 0.01		, and the second	Form	aldehyde	0.06	0.01
Hemiformals 0.05 0.01				Metȟanol	2.12	0.02
PM_FUG Particulate Matter Fugitives (4) PM ₁₀ 4.56 1.20 FM_CT Formaldehyde Cooling Tower (4) Formaldehyde 0.16 0.44 Methanol 0.08 0.22 RES_FUG Resin Production Fugitives (4) Formaldehyde 0.20 0.03 Phenol 0.06 0.19 Methanol 2.97 0.81 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54				Methylene Glycol	0.01	0.01
FM_CT Formaldehyde Cooling Tower (4) Formaldehyde 0.16 0.44 0.08 0.22 RES_FUG Resin Production Fugitives (4) Formaldehyde 0.20 0.03				Hemiformals	0.05	0.01
Nethanol 0.08 0.22	PM_FUG	Particulate Matter Fugitives (4)	PM ₁₀	4.56	1.20
RES_FUG Resin Production Fugitives (4) Phenol Phen	FM_CT	Formaldehyde Cooling Towe	` '	_		
Phenol 0.06 0.19 Methanol 2.97 0.81 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54			Metha	anol	0.08	0.22
Methanol 2.97 0.81 Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54	RES_FUG					
Methylene Glycol 0.02 0.01 Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54			Phen			
Hemiformals 0.06 0.02 TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54						
TEA 0.04 0.16 MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54				,		
MMA 0.01 0.03 DEA 0.01 0.06 FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54						
FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54						
FORM_FUG Formaldehyde Plant Fugitives (4) Formaldehyde 0.12 0.54						
				DEA	0.01	0.06
Metnanol 0.11 0.50	FORM_FUG	Formaldehyde Plant Fugitives	s (4)	_		
				Methanol	0.11	0.50
VAP_BAL Formaldehyde Loading Formaldehyde 0.04 0.01	VAP_BAL	Formaldehyde Loading		Formaldehyde	0.04	0.01
Losses Methanol 0.30 0.02		Losses		Methanol	0.30	0.02

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission	ssion Source		Emission Rates *	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY**
		MEA Triazine MMA Triazine MEA MMA	0.01 0.30 0.01 0.06	0.01 0.01 0.01 0.01
22	MEA Storage Tank	MEA	0.07	0.01
23	TEA Storage Tank (Wax)	TEA	0.01	0.01
24	TEA Storage Tank (Warehouse)	TEA	0.01	0.01
25	Distillate Tank #2	Formaldehyde Methanol	0.01 0.09	0.01 0.03
26	Wash Water Tank (Reactor A)	Formaldehyde Methanol Phenol	0.01 0.05 0.01	0.01 0.01 0.01
27	MEA-Based Triazine Storage Tanks	Methanol MEA Triazine MEA	7.19 0.01 0.01	0.39 0.01 0.01

- (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_x - total oxides of nitrogen

SO₂ - sulfur dioxide

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.

CO - carbon monoxide

TEA - triethanolamine

MMA - monomethylamine

DEA - diethanolamine

MEA - monoethanolamine

Source

Emission

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Air Contaminant <u>Emission Rates *</u>

Poi	nt No. (1)	Name (2)	Name (3)	lb/hr	TPY**	
(4)	Emission rat	to is an ostimato and is	e anforcaable through compliance wi	ith the applies	able Special	
(4)	 Emission rate is an estimate and is enforceable through compliance with the applicable Special Condition(s) and permit application representations. 					
` '	Emissions fallation of the		Silo Vent 1, Pre-Reactor B"; are o replacement for	-		
soli	ds addition sy	ystem are complete. Up	oon completion of the			
	installation	of Reactor B and the	bulk solids addition system, emiss	sions from E	PN: 14 are	
cov	ered by "Urea	a				
	Silo Vent 1, Post-Reactor B."					
(6)	(6) Specific VOC species are not included in the "VOC" emission rates.					
*	Emission rates are based on and the facilities are limited by the following maximum operating schedule:					
	Hrs/day	/Days/week	Weeks/year or <u>8,760</u> Hrs/year			
**	* Compliance with annual emission limits is based on a rolling 12-month period.					
				Dated <i>A</i>	April 1, 2002	