

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Nos. 3855B and PSD-TX-876

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	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
F-P01	VCM Production Fugitives (4) 1.05	EDC		0.24
		VCM	0.01	0.03
		HCl	0.01	0.06
		NH ₃	0.02	0.09
F-P02	Cracking and Purification Fugitives (4)	EDC	0.89	3.92
		VCM	1.24	5.44
		EG	0.06	0.25
		VOC	0.12	0.52
		HCl	0.73	3.18
		Cl ₂	0.01	0.07
		NH ₃	0.02	0.08
F-P03	Ethylene Battery Limits Fugitives (4)	EDC	0.01	0.05
		VOC	0.96	4.20
F-P03A	VCM Loading Fugitives (4)	VCM	0.21	0.91
F-P03B	Chlorine Unloading Fugitives (4) 0.10		Cl ₂	0.02
F-P05	Wastewater Area Fugitives (4) 1.39	EDC		0.32
		VOC	0.05	0.25
		NH ₃	0.59	2.57
F-P06	EDC Process Fugitives (4)	EDC	2.34	10.26
		VCM	<0.01	0.01
		EG	0.30	1.30

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<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
		VOC	0.19	0.79
		Cl ₂	0.01	0.04
		NH ₃	0.26	1.15

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
F-P07	Oxy-Chlorination Process Fugitives (4)	EDC	1.07	4.68
		VCM	0.05	0.23
		EG	0.08	0.35
		VOC	0.69	3.03
		HCl	0.10	0.42
		NH ₃	0.12	0.52
F-P08	VCM Tank Farm Fugitives (4) 0.47	EDC		0.11
		VCM	0.51	2.25
		VOC	0.08	0.33
		NH ₃	0.07	0.31
F-P09	Furnace and Boiler Area Fugitives (4)	EDC	0.59	2.60
		VCM	0.09	0.38
		HCl	0.16	0.71
F-P10	No. 2 Cracking and Purification 1.90 Fugitives (4)	EDC		0.43
		VCM	0.87	3.80
		EG	0.07	0.29
		VOC	0.13	0.56
		HCl	0.10	0.43
F-P11	No. 2 Oxy-Chlorination Process 2.91 Fugitives (4)	EDC		0.66
		VCM	0.12	0.51
		EG	0.09	0.41
		VOC	1.38	6.03
		HCl	0.22	0.96
F-P12	No. 3 Cracking and Purification 2.91 Fugitives (4)	EDC		0.66
		VCM	0.12	0.51
		EG	0.09	0.41

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Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
		VOC	1.38	6.03
		HCl	0.22	0.96
F-P13	No. 3 Oxy-Chlorination Process	EDC		2.03
	8.89			
	Fugitives (4)	VCM	<0.01	0.01
		VOC	0.02	0.09
F-P-13D	"D" Oxy-Chlorination Reactor	EDC		0.20
	0.87			
	Process Fugitives (4)	VOC	0.01	0.04
		HCl	0.08	0.35
F-P14	No. 2 EDC Process Fugitives (4)	EDC		0.39
	1.70			
F-P15	No. 2 VCM Production	EDC	0.05	0.24
	Fugitives (4)			
IND102A	Boiler A (124 MMBTU/Hour)	PM ₁₀	1.90	8.30
		SO ₂	0.10	0.30
		NO _x	25.90	113.0
		CO	2.10	9.30
		VOC	0.40	1.60
IND102B	Boiler B (124 MMBTU/Hour)	PM ₁₀	1.90	8.30
		SO ₂	0.10	0.30
		NO _x	25.90	113.0
		CO	2.10	9.30
		VOC	0.40	1.60
IND102C	Boiler C (124 MMBTU/Hour)	PM ₁₀	1.90	8.30
		SO ₂	0.10	0.30
		NO _x	25.90	113.0
		CO	2.10	9.30

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Emission *	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
		VOC	0.40	1.60
IND102D	Boiler D (121 MMBTU/Hour)	PM ₁₀ (5)	1.21	4.24
		SO ₂	0.24	0.85
		NO _x (5)	4.24	14.84
		CO (5)	18.15	63.60
		VOC	1.94	6.78
IND102E	Boiler E (121 MMBTU/Hour)	PM ₁₀ (5)	1.21	4.24
		SO ₂	0.24	0.85
		NO _x (5)	4.24	14.84
		CO (5)	18.15	63.60
		VOC	1.94	6.78
IND103	Cracking Furnace 103 (57 MMBTU/Hour)	PM ₁₀	0.90	3.50
		SO ₂	0.08	0.17
		NO _x	11.90	47.30
		CO	1.00	3.90
		VOC	0.20	1.00
IND104	Cracking Furnace 104 (57 MMBTU/Hour)	PM ₁₀	0.90	3.50
		SO ₂	0.08	0.17
		NO _x	11.90	47.30
		CO	1.00	3.90
		VOC	0.20	1.00
IND105	Cracking Furnace 105 (57 MMBTU/Hour)	PM ₁₀	0.90	3.50
		SO ₂	0.08	0.17
		NO _x	11.90	47.30
		CO	1.00	3.90
		VOC	0.20	1.00
IND106	Cracking Furnace 106 (57 MMBTU/Hour)	PM ₁₀	0.90	3.50
		SO ₂	0.08	0.17
		NO _x	11.90	47.30

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Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
		CO	1.00	3.90
		VOC	0.20	1.00
IND107	Cracking Furnace 107 (72 MMBTU/Hour)	PM ₁₀	0.99	3.46
		SO ₂	0.04	0.15
		NO _x	2.52	8.83
		CO	2.52	8.83
		VOC	0.20	0.71
IND108	Cracking Furnace 108 (72 MMBTU/Hour)	PM ₁₀	0.99	3.46
		SO ₂	0.04	0.15
		NO _x	2.52	8.83
		CO	2.52	8.83
		VOC	0.20	0.71

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AIR CONTAMINANTS DATA

Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
IND109	Cracking Furnace 109 (72 MMBTU/Hour)	PM ₁₀ (5)	0.99	3.46
		SO ₂	0.04	0.15
		NO _x (5)	2.52	8.83
		CO (5)	2.52	8.83
		VOC	0.20	0.71
IND110	Cracking Furnace 110 (72 MMBTU/Hour)	PM ₁₀ (5)	0.99	3.46
		SO ₂	0.04	0.15
		NO _x (5)	2.52	8.83
		CO (5)	2.52	8.83
		VOC	0.20	0.71
IND111	Cracking Furnace 111 (72 MMBTU/Hour)	PM ₁₀ (5)	0.99	3.46
		SO ₂	0.04	0.15
		NO _x (5)	2.52	8.83
		CO (5)	2.52	8.83
		VOC	0.20	0.71
IND101A	Incinerator A Scrubber	EDC	0.13	0.58
		VCM	0.05	0.22
		C ₂ H ₅ Cl	0.01	0.02
		CHCl ₃	0.02	0.09
		Toluene	0.01	0.04
		CFC-113	0.03	0.12
		NO _x	6.12	26.79
		CO	2.21	9.43
		SO ₂	0.10	0.40
		PM ₁₀	2.00	8.80
		HCl	5.21	22.82
		Cl ₂	10.14	44.41
IND101B	Incinerator B Scrubber	EDC	0.13	0.58
		VCM	0.05	0.22
		C ₂ H ₅ Cl	0.01	0.02
		CHCl ₃	0.02	0.09

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
IND101B (cont'd)	Incinerator B Scrubber	Toluene	0.01	0.04
		CFC-113	0.03	0.12
		NO _x	6.12	26.79
		CO	2.21	9.43
		SO ₂	0.10	0.40
		PM ₁₀	2.00	8.80
		HCl	5.21	22.82
		Cl ₂	10.14	44.41
EEDC-SUMP	East EDC Tank Farm Sump	EDC	<0.01	<0.01
EDCTF-SUMP	West EDC Tank Farm Sump	EDC	<0.01	<0.01
IM-SUMP	Intermediate Sump	EDC	<0.01	<0.01
LTC SUMP	LTC Sump	EDC	<0.01	<0.01
N01-SUMP	No. 1 Sump	EDC	<0.01	<0.01
N02-SUMP	No. 2 Sump	EDC	<0.01	<0.01
COXY-SUMP	C-Oxy Sump	EDC	<0.01	<0.01
EOXY-SUMP	E-Oxy Sump	EDC	<0.01	<0.01
HYDRO-SUMP	Hydroblast Pad Sump	EDC	<0.01	<0.01
HYDRO-WEIR	Hydroblast Pad Weir	EDC	0.01	0.06
		VCM	<0.01	0.03
WW-1	Wastewater Treatment	EDC	0.17	0.42
		CHCl ₃	0.35	0.87
LAB-SUMP	Lab Sump	EDC	0.30	0.66

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
DEGREASER	Parts Degreaser	VOC	0.08	0.24
		Toluene	<0.01	<0.01
		Xylene	<0.01	<0.01
		EB	<0.01	<0.01
		TCE	<0.01	<0.01
FB-6473	LOPS Tank	VOC	0.08	0.03
GT-1	Gasoline Storage Tank	Gasoline	44.23	1.13
DT-1-FWP	Diesel Storage Tank	Diesel	0.01	<0.01
DT-2-FWP	Diesel Storage Tank	Diesel	0.01	<0.01
DT-3-FWP	Diesel Storage Tank	Diesel	0.01	<0.01
DT-4-FWP	Diesel Storage Tank	Diesel	0.01	<0.01
DT-5-FWP	Diesel Storage Tank	Diesel	0.01	<0.01
DT-6-UTIL	Diesel Storage Tank	Diesel	0.01	<0.01
DT-7-EG	Diesel Storage Tank	Diesel	0.01	<0.01
FA-4605	10 percent Hydrochloric Acid Tank <0.01	HCl		0.10
FA-4609	10 percent Hydrochloric Acid Tank <0.01	HCl		0.10
FA-4610	10 percent Hydrochloric Acid Tank <0.01	HCl		0.10
FA-3204	10 percent Ethylene Glycol Tank <0.01	EG		0.10

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
FB-6404	Sodium Hydroxide Tank	NaOH	0.49	0.07
FB-6480	Sodium Hydroxide Tank	NaOH	0.20	0.03
FB-6470	Solvent Storage Tank	VOC	25.74	0.96
COOLTWR	Cooling Tower	PM	<0.01	<0.01
		Cl ₂	0.20	0.88
COOLTWR-2	East Cooling Tower	PM	<0.01	<0.01
		Cl ₂	0.20	0.88
E1-E5	5 Firewater Pump Diesel Engines (250-hp)	For Emergency Use Only		
E6	Emergency Generator Diesel Engine	For Emergency Use Only		
Start-up, or	Oxyhydrochlorination Reactor Quench	Emergency,		
	Tower Absorber Vents	Shutdown Use Only		

(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) EDC - ethylene dichloride

VCM - vinyl chloride monomer

HCl - hydrogen chloride

NH₃ - ammonia

EG - ethylene glycol

VOC - volatile organic compounds as defined in General Rule 101.1 excluding chloroethane, chloroform, toluene, xylene, TCE, EB, EDC, VCM, and EG

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Emission *	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY

Cl ₂	-	chlorine		
PM	-	particulate matter, suspended in the atmosphere, including		
PM ₁₀ .				
PM ₁₀	-	particulate matter less than 10 microns in diameter. Where		
PM is not listed,		it shall be		
is emitted.		assumed that no particulate matter greater than 10 microns		
SO ₂	-	sulfur dioxide		
NO _x	-	total oxides of nitrogen		
CO	-	carbon monoxide		
C ₂ H ₅ Cl	-	chloroethane (ethyl chloride)		
CHCl ₃	-	chloroform		
CFC-113	-	1,1,2-trichloro-1,2,2-trifluoroethane		
TCE	-	1,1,2,2-tetrachloroethane		
EB	-	ethyl benzene		
NaOH	-	sodium hydroxide		
(4)	Fugitive emissions are an estimate only and should not be			
	considered as a maximum allowable emission rate.			
(5)	Pollutants are authorized under PSD-TX-876.			

* 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

Dated _____