

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 19708

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 Point No. (1)	Source Name (2)	Name (3)	Air Contaminant lb/hr TPY	<u>Emission Rates *</u>	
<u>BLDG. A PHASE 1</u>					
CD-1	THERMAL OXIDIZER, ROUTED FROM FAB 1A & FAB 2A, PHASE 1		VOC	2.21	3.46
			NOx	0.72	3.15
			CO	0.15	0.63
			SOx	0.03	0.14
			PM	0.13	0.56
<u>FAB 1A</u>					
FS-33	FUME SCRUBBER PHASE 1		HCl	0.03	0.04
FS-34			HALOCARBONS	0.04	0.05
FS-35 (4)			INORGANIC ACIDS	0.46	0.69
			NOx	0.01	0.02
			SOx	0.39	0.58
			HF	0.10	0.15
	OTHER INORGANICS	0.09	0.13		
FS-37	AMMONIA SCRUBBER PHASE 1		AMMONIA	0.13	0.19
SE-31	SOLVENT EXHAUST PHASE 1		VOC	9.87	14.69
SE-32			HALOCARBON	0.001	0.002
FUG-1A	FUGITIVES FAB 1A PHASE 1		VOC	2.46	3.66
<u>FAB 2A</u>					
FS-1	FUME SCRUBBER PHASE 1		VOC	0.1	0.14
FS-2			HCl	0.02	0.03
FS-3 (4)			HALOCARBONS	0.09	0.14
			INORGANIC ACIDS	0.19	0.28

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
		AMMONIA	0.10	0.15
		NOx	0.17	0.25
		SOx	0.29	0.43
		HF	0.10	0.15
		OTHER INORGANICS	0.2	0.28
FS-14	EPI SCRUBBER PHASE 1	HCl	0.10	0.14
FS-15		OTHER INORGANICS	<.001	<.001
FS-16				
FS-17				
FS-18				
SE-12	SOLVENT EXHAUST PHASE 1	VOC	0.26	0.39
SE-4	SOLVENT EXHAUST PHASE 1	VOC	15.19	22.60
		AMMONIA	0.01	0.01
FUG-2A	FUGITIVES FAB 2A PHASE 1	VOC	2.59	3.98
<u>BLDG C PHASE 1</u>				
<u>FAB 1A</u>				
SE-C	SOLVENT EXHAUST PHASE 1	VOC	3.44	5.12
FS-C	FUME SCRUBBER PHASE 1	HF	0.01	0.02
		INORGANIC ACIDS	0.01	0.02
		AMMONIA	0.003	0.01
		SOx	<0.001	<0.001
		OTHER INORGANICS	0.01	0.02
FUG-C	FUGITIVES BLDG. C	VOC	0.32	0.47

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Emission	Source	Air Contaminant	Emission Rates *	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
BLDG A. PHASE 2				
CD-1	THERMAL OXIDIZER, ROUTED FROM FAB 1A AND FAB 2A, PHASE 2	VOC	8.13	12.40
		NOx	0.11	.48
		CO	0.03	0.1
		SOx	0.01	0.01
		PM	0.01	0.02
		AMMONIA	0.01	0.02
FAB 1A				
FS-33	FUME SCRUBBER PHASE 2	HCl	0.03	0.04
FS-34		HALOCARBONS	0.05	0.07
FS-35 (4)		INORGANIC ACIDS	0.56	0.84
		NOx	0.02	0.03
		SOx	0.41	0.60
		HF	0.11	0.17
	OTHER INORGANICS	0.16	0.24	
FS-37	AMMONIA SCRUBBER PHASE 2	AMMONIA	0.20	0.3
R-1	ACID REPROCESSOR PHASE 2	H2SO4	.04	.06
SE-31	SOLVENT EXHAUST PHASE 2	VOC	2.21	3.28
SE-32		HALOCARBON	0.002	0.003
FUG-1A	FUGITIVES FAB 1A PHASE 2	VOC	4.71	7.01
FAB 2A				
FS-1	FUME SCRUBBER	VOC	0.15	0.22

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
FS-2	PHASE 2	HCl	0.02	0.03
FS-3 (4)		HALOCARBONS	0.14	0.2
		INORGANIC ACIDS	0.21	0.31
		AMMONIA	0.18	0.26
		NOx	0.27	0.4
		SOx	0.57	0.85
		HF	0.13	0.2
		OTHER INORGANICS	0.46	0.6
FS-14	EPI SCRUBBER	HCl	0.13	0.19
FS-15	PHASE 2	OTHER INORGANICS	<.001	<.001
FS-16				
FS-17				
FS-18				
SE-12	SOLVENT EXHAUST PHASE 2	VOC	0.41	0.60
FUG-2A	FUGITIVES FAB 2A PHASE 2	VOC	4.88	7.27
<u>BLDG. C PHASE 2</u>				
<u>FAB 1A</u>				
SE-C	SOLVENT EXHAUST PHASE 2	VOC	5.47	8.14
FS-C	FUME SCRUBBER PHASE 2	HF	0.01	0.02
		INORGANIC ACIDS	0.02	0.02
		AMMONIA	0.01	0.01
		SOx	<0.001	<0.001
		OTHER INORGANICS	0.06	0.09
FUG-C	FUGITIVES BLDG. C	VOC	0.46	0.69

BLDG A AND C PHASE 3

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
<u>FAB 1A AND 2A</u>				
CD-1	THERMAL OXIDIZER PHASE 3	VOC	13.00	19.65
		AMMONIA	0.01	0.02
		NOx	0.11	0.48
		CO	0.02	0.10
		SOx	0.001	0.003
		PM	0.003	0.012
		HALOCARBON	0.003	0.005

BLDG. A PHASE 3FAB 1A

FS-33 FS-34 FS-35 (4)	FUME SCRUBBERS PHASE 3	HCl	0.05	0.07
		HALOCARBONS	0.09	0.13
		INORGANIC ACIDS	1.07	1.59
		NOx	0.03	0.04
		SOx	0.81	1.20
		HF	0.20	0.3
		OTHER INORGANICS	0.32	0.48
FS-37	AMMONIA SCRUBBER PHASE 3	AMMONIA	0.43	0.63
R-1	ACID REPROCESSOR	H2SO4	<0.001	<0.001
FUG-1A	FUGITIVES FAB 1A PHASE 3	VOC	9.2	13.7

FAB 2A

FS-1 FS-2 FS-3 (4)	FUME SCRUBBERS PHASE 3	HCl	0.02	0.03
		HALOCARBONS	0.14	0.2
		INORGANIC ACIDS	0.21	0.31
		AMMONIA	0.18	0.26
		NOx	0.27	0.4
		SOx	0.57	0.85

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
		HF	0.13	0.2
		OTHER INORGANICS	0.46	0.59
		VOC	0.15	0.22
FS-14	EPI SCRUBBERS PHASE 3	HCl	0.13	0.19
FS-15		OTHER INORGANICS	<0.001	<0.001
FS-16				
FS-17				
FS-18				
SE-12	SOLVENT EXHAUST PHASE 3	VOC	0.41	0.60
FUG-2A	FUGITIVES FAB 2A PHASE 3	VOC	5.47	8.36
<u>BLDG C PHASE 3</u>				
FS-C	FUME SCRUBBER PHASE 3	HF	0.02	0.02
		INORGANIC ACIDS	0.02	0.03
		AMMONIA	0.02	0.03
		SOx	<0.001	0.001
		OTHER INORGANICS	0.06	0.09
		HALOCARBONS	0.003	0.01
FUG-C	FUGITIVES	VOC	0.82	1.23
<u>STORAGE TANKS, PHASES 1, 2, AND 3</u>				
T-1	DIESEL STORAGE	VOC	0.10	<0.001
T-2	NaOH STORAGE	NaOH	<0.001	<0.001
T-3	NaOH STORAGE	NaOH	<0.001	<0.001
T-4	H2SO4 STORAGE	H2SO4	0.0002	<0.0001

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
T-900	HCI STORAGE	HCI	0.10	0.002
BWS	SOLVENT WASTE STORAGE	VOC	0.39	0.002
IWT-1	NEUTRALIZATION	H2SO4	<0.01	<0.01
IWT-2	NEUTRALIZATION	H2SO4	<0.01	<0.01
BCV	BOTTLE CHANGE CABINET	SILANE	0.001	<0.001

BOILERS, PHASES 1, 2, AND 3

BS-1	BOILER NO. 1 NATURAL GAS	VOC	0.06	0.24
		PM	0.05	0.23
		NOx	1.05	4.58
		CO	0.21	0.92
		SOx	0.007	0.03
BS-1	BOILER NO. 1 DIESEL	VOC	0.03	0.11
		PM	0.15	0.65
		NOx	1.49	6.54
		CO	0.37	1.64
		SOx	0.003	<0.001
BS-2	BOILER NO. 2 NATURAL GAS	VOC	0.06	0.24
		PM	0.05	0.23
		NOx	1.05	4.58
		CO	0.21	0.92
		SOx	0.007	0.03
BS-2	BOILER NO. 2 DIESEL	VOC	0.03	0.11
		PM	0.15	0.65
		NOx	1.49	6.54
		CO	0.37	1.64
		SOx	0.003	<0.001

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
BS-3	BOILER NO. 3	VOC	0.03	0.12
		PM	0.03	0.11
		NOx	0.52	2.29
		CO	0.1	0.46
		SOx	0.004	0.02
BS-4	BOILER NO. 4	VOC	0.03	0.12
		PM	0.03	0.11
		NOx	0.52	2.29
		CO	0.1	0.46
		SOx	0.004	0.02
G-1	BACK-UP GENERATOR 1 PHASES 1, 2, AND 3	VOC	1.61	0.02
		PM	1.21	0.02
		NOx	16.98	0.21
		CO	3.67	0.04
		SOx	0.35	0.01
G-1	BACK-UP GENERATOR 2 PHASES 2 AND 3	VOC	1.61	0.02
		PM	1.21	0.02
		NOx	16.98	0.21
		CO	3.67	0.04
		SOx	0.35	0.01

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan. Unless otherwise noted, where more than one emission point is listed, the values shown are the maximum allowable combined stack emissions.
- (2) Specific point source name. For fugitive sources use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in General Rule 101.1
 NOx - total oxides of nitrogen
 SOx - sulfur oxides
 CO - carbon monoxide
 HF - hydrogen fluoride
 HCl - hydrogen chloride
 PM - particulate matter
 H2SO4 - hydrogen sulfate
 NaOH - sodium hydroxide

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

(4)	Two of the three scrubbers are operating in parallel. One serves as a backup for maintenance or unscheduled outages.			
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* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

Hrs/day 24 Days/week 7 Weeks/year 52 or Hrs/year 8,760

Dated _____