

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 34957

This table lists the maximum allowable emission rates for all sources of air contaminants covered by this permit.

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2, 3)	Air Contaminant Name (4)	<u>Emission Rates</u>	
			<u>lb/hr</u>	<u>TPY</u>
1	Scrubber 1 for Reactor R3 0.01	Phosphine		0.01
		Arsine	0.01	0.01
		Diborane	0.01	0.01
		HCl	0.01	0.01
		SiO ₂	0.02	0.04
V-100	Scrubber 2 for Reactor R3 0.01	Phosphine		0.01
	and dopant gas line purge 0.01	Arsine		0.01
		Diborane	0.01	0.01
		HCl	0.01	0.01
		SiO ₂	0.01	0.01
3	Scrubber 3 for Reactor R3 0.01	Phosphine		0.01
		Arsine	0.01	0.01
		Diborane	0.01	0.01
		HCl	0.01	0.01
		SiO ₂	0.01	0.01
4	Scrubber 1 for Reactors R1 and R2	Phosphine	0.01	0.01
		Arsine	0.01	0.01
		Diborane	0.01	0.01
		HCl	0.01	0.01
		SiO ₂	0.01	0.01
5	Scrubber 2 for Reactors R1 and R2	Phosphine	0.01	0.01
		Arsine	0.01	0.01
		Diborane	0.01	0.01
		HCl	0.01	0.01
		SiO ₂	0.01	0.01

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name	Emission Rates	
			lb/hr	TPY
S-1	Scrubber for gas piping and storage cabinets for 0.01 Reactors R1, R2, and R3	Phosphine	0.01	0.01
		Diborane		0.01
		Arsine	0.01	0.01
		HCl 0.01	0.01	
		SiO ₂ 0.01	0.01	
S-2	Scrubber for IPA cleaning 0.01 and acid baths	Nitric Acid		0.01
		Hydrofluoric Acid	0.01	0.01
		Sulfuric Acid	0.01	0.01
		Hydrogen Peroxide	0.01	0.01
		IPA	0.16	0.70
		Ammonia	0.01	0.01
S-3	Scrubber for gas piping 0.01 and storage cabinets for 0.01 Epitaxial Reactors and 0.01 miscellaneous cleaning	Phosphine		0.01
		Arsine		0.01
		Diborane		0.01
		HCl		0.01
			0.01	
		SiO ₂ 0.02	0.01	
		Ammonia	0.01	0.01
		Hydrogen Peroxide	0.01	0.01
		Hydrofluoric Acid	0.01	0.01
		Sulfuric Acid	0.01	0.01
S-4	Scrubber for HCl Storage 0.01	HCl		0.01
F-1	Wastewater Fugitives	Ammonia	0.18	0.78
V-1a, 1b, 2a, 2b, 3a,	Scrubbers for 16	Phosphine		0.01

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name	Emission Rates	
			lb/hr	TPY
3b, 4a, 4b, 5a, 5b, 6a,		0.01 Epitaxial Reactors	Arsine	0.01
6b, 7a, 7b, 8a, 8b, 9a,		0.01 Diborane		0.01
9b, 10a, 10b, 11a,11b,		0.01 HCl		0.01
12a, 12b, 13a,13b,14a,		0.01 SiO2		0.01
14b, 15a, 15b, 16a,16b		0.01		
B-1, TR-1, TR-2,TR-3,		Boiler, Air conditioning units,PM		
TR-4, DG-1	and Generator	1.06 POC	0.13 20.17	2.28

- (1) Emission point identification - emission point number from plot plan.
- (2) Specific point source name. For fugitive sources use area name or fugitive source name.
- (3) HCl - hydrochloric acid
IPA- isopropanol
HVAC - heating, ventilation, and air conditioning
- (4) SiO2- silicon dioxide
NH4OH- ammonia
PM - particulate matter 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.
POC - products of combustion, including NOx, TOC, SO2, and CO.

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

Dated_____