

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)	Emission Rates	
			lb/hr	TPY
1	Scrubber 1 for Reactor R3	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
V-100	Scrubber 2 for Reactor R3 and dopant gas line purge	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
3	Scrubber 3 for Reactor R3	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
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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AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2, 3)	Air Contaminant Name (4)	<u>Emission Rates</u>	
			lb/hr	TPY
S-1	Scrubber for gas piping and storage cabinets for Reactors R1, R2, and R3	Phosphine	0.01	0.01
		Diborane	0.01	0.01
		Arsine	0.01	0.01
		HCl	0.01	
		SiO ₂	0.01	
S-2	Scrubber for IPA cleaning and acid baths	Nitric Acid	0.01	0.01
		Hydrofluoric Acid	0.01	0.01
		Acetone	0.04	0.17
		Hydrogen Peroxide	0.01	0.01
		IPA	0.16	0.70
		NH ₄ OH	0.01	0.01
S-3	Scrubber for gas piping and storage cabinets for Epitaxial Reactors and miscellaneous cleaning	Phosphine	0.01	0.01
		Arsine	0.01	0.01
		Diborane	0.01	0.01
		HCl	0.01	0.04
		SiO ₂	0.01	
		NH ₄ OH	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	HCl	0.01	0.01
F-1	Wastewater Fugitives	NH ₄ OH	0.18	0.78
V-1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b, 5a, 5b, 6a, 6b, 7a, 7b, 8a, 8b, 9a, 9b, 10a, 10b, 11a,11b, 12a, 12b, 13a,13b,14a, 14b, 15a, 15b, 16a,16b	Scrubbers for 16 Epitaxial Reactors	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, 3)	Air Contaminant Name (4)	<u>Emission Rates</u>	
			lb/hr	TPY
B-1, TR-1, TR-2, TR-3, TR-4, DG-1	Boiler, Air conditioning units, and Generator	PM POC	1.07 20.34	0.18 2.38

(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 NO_x, TOC, SO₂, and CO.

Dated _____