

Emission Sources - Maximum Allowable Emission Rates

Permit Number 21995

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, sources, and related activities. 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) | Air Contaminant Name (3) | Emission Rates | |
|---------------------------|---|--------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| VSP-1 | F-1421 Flash Dryer (7) Bag Filter | PM | 0.98 | 3.71 |
| | | PM ₁₀ | 0.98 | 3.71 |
| | | PM _{2.5} | 0.98 | 3.71 |
| | | NO _x | 1.68 | 6.94 |
| | | CO | 2.09 | 8.62 |
| | | VOC | 0.14 | 0.56 |
| | | SO ₂ | 0.01 | 0.06 |
| | | NH ₃ | 0.03 | 0.11 |
| VSP-2 | F-1521 Flash Dryer (7) Bag Filter | PM | 0.98 | 3.71 |
| | | PM ₁₀ | 0.98 | 3.71 |
| | | PM _{2.5} | 0.98 | 3.71 |
| | | NO _x | 1.68 | 6.94 |
| | | CO | 2.09 | 8.62 |
| | | VOC | 0.14 | 0.56 |
| | | SO ₂ | 0.01 | 0.06 |
| | | NH ₃ | 0.03 | 0.11 |
| VSP-3 | Vacuum Vent | NH ₃ | 0.50 | 2.05 |
| VSP-4 | C-1822 Ammonia Stripper Vent Scrubber | NH ₃ | 0.02 | 0.08 |
| VSP-7 | HCl Tank Scrubber (6) | HCl | 0.07 | 0.02 |

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| | | | | |
|-------------|----------------------------|-------------------|-------|-------|
| VSP-8 | NH3 Tank Vent Scrubber (6) | NH ₃ | 0.01 | 0.01 |
| VSP-9 | Steam Boiler (6) | PM | 0.94 | 2.68 |
| | | PM ₁₀ | 0.94 | 2.68 |
| | | PM _{2.5} | 0.94 | 2.68 |
| | | NO _x | 7.57 | 21.64 |
| | | CO | 10.34 | 29.58 |
| | | VOC | 0.68 | 1.93 |
| | | SO ₂ | 0.07 | 0.21 |
| VSP-10 | Tank T-1423 | NH ₃ | 0.01 | 0.01 |
| VSP-11 | Tank T-1523 | NH ₃ | 0.01 | 0.01 |
| VSP-12 | F-1422 Calciner (7)(8) | PM | 0.10 | 0.41 |
| | | PM ₁₀ | 0.10 | 0.41 |
| | | PM _{2.5} | 0.10 | 0.41 |
| | | NO _x | 0.89 | 3.68 |
| | | CO | 1.11 | 4.56 |
| | | VOC | 0.07 | 0.30 |
| | | SO ₂ | 0.01 | 0.03 |
| VSP-13 | F-1522 Calciner (7)(8) | PM | 0.10 | 0.41 |
| | | PM ₁₀ | 0.10 | 0.41 |
| | | PM _{2.5} | 0.10 | 0.41 |
| | | NO _x | 0.89 | 3.68 |
| | | CO | 1.11 | 4.56 |
| | | VOC | 0.10 | 0.30 |
| | | SO ₂ | 0.07 | 0.03 |
| VSP-CASCADE | Cascade Reactor Vent | NH3 | 0.01 | 0.06 |

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| | | | | |
|------------|---------------|-----------------|------|-------|
| | | HCl | 0.01 | 0.01 |
| VSP-FUG | Fugitives (5) | NH ₃ | 0.26 | 1.16 |
| | | HCl | 0.20 | 0.87 |
| PERMITWIDE | Permit wide | NO _x | -- | 34.00 |

- (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) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- NO_x - total oxides of nitrogen
- SO₂ - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
- PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
- PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
- CO - carbon monoxide
- NH₃ - ammonia
- HCl - hydrochloric acid
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Emission rates for the HCL Tank Scrubber (EPN VSP-7), NH₃ Tank Vent Scrubber (VSP-8) and Steam Boiler (VSP-9), are based on and the facilities are limited by a maximum operating schedule of 8,760 hrs/year.
- (7) During integrated operating mode, emissions from the calciners are routed to the flash dryers and flow through EPNs VSP-1 and VSP-2. There are no emissions from EPNs VSP-12 and VSP-13 during integrated mode.
- (8) Annual NO_x limitations from Special Condition No. 5 are based on VSP-1, VSP-2, VSP-12, and VSP-13 operating in independent mode.

Date: September 13, 2016