

Emission Sources - Maximum Allowable Emission Rates

Permit Number 2501A

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) |
| 22AVENT | BHT Catalyst Regeneration | VOC | 5.00 | 0.06 |
| 22FA225 | Alky Unit Bauxite Tower Washing | VOC | 1.00 | 0.03 |
| 21FUG | MTBE Unit Fugitives (5) | VOC | 2.60 | 11.39 |
| 22FUG | Alky Unit Fugitives (5) | VOC | 10.20 | 44.63 |
| 22AFUG | BHT Fugitives (5) | VOC | 1.30 | 5.87 |
| 42FUG | FCC Cat Gas Unit Fugitives (5) | VOC | 0.70 | 2.98 |
| 42AFUG | FCC Unit Fugitives (5) | VOC | 1.70 | 7.62 |
| 42BFUG | FCC Cat Con Unit Fugitives (5) | VOC | 4.20 | 18.31 |
| 42CFUG | FCC Depentanizer Unit Fugitives (5) | VOC | 0.80 | 3.68 |
| 43FUG | FCC Merox Unit Fugitives (5) | VOC | 2.30 | 10.21 |
| 43AFUG | FCC Propylene Unit Fugitives (5) | VOC | 1.00 | 4.20 |
| 81CWT1 | Cooling Tower No. 1 | VOC | 1.30 | 5.52 |
| 22CWT3 | Cooling Tower No. 3 | VOC | 0.40 | 1.84 |
| 42CWT10 | Cooling Tower No. 10 | VOC | 1.70 | 7.36 |
| 22FB731 | Storage Tank 22FB731 (6) | VOC | 7.60 | 0.55 |
| 22FB748 | Storage Tank 22FB748 (6) | VOC | 6.40 | 0.84 |
| 22FB747 | Storage Tank 22FB747 | VOC | 0.10 | 0.01 |
| 90FB213 | Storage Tank 90FB213 | VOC | 0.20 | 0.19 |
| 91FB905 | Storage Tank 91FB905 | VOC | 0.20 | 0.31 |
| 91FB916 | Storage Tank 91FB916 | VOC | 0.80 | 2.40 |
| 90FB223 | Storage Tank 90FB223 | VOC | 3.10 | 8.74 |
| 90FB510 | Storage Tank 90FB510 (interim) | VOC | 0.50 | 0.49 |
| 90FB510 | Storage Tank 90FB510 (final) | VOC | 0.40 | 0.35 |

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| | | | | |
|---------------------|--|------------------|--------|--------|
| 90FB218 | Storage Tank 90FB218 | VOC | 1.10 | --- |
| 90FB219 | Storage Tank 90FB219 | VOC | 1.10 | --- |
| 90FB218, 90FB219 | Storage Tank Cap | VOC | --- | 3.34 |
| 91FB402 | Storage Tank 91FB402 | VOC | 1.10 | 2.63 |
| 90FB508 | Storage Tank 90FB508 | VOC | 3.60 | 0.03 |
| | | Benzene | 0.30 | 0.81 |
| 90FB217 | Storage Tank 90FB217 | VOC | 4.10 | 5.08 |
| 90FB220 | Storage Tank 90FB220 | VOC | 0.80 | 0.23 |
| 42FB2802 | Storage Tank 42FB2802 | VOC | 0.10 | 0.01 |
| 30FL1, 30FL2, 30FL5 | Derrick Flare, IsoMax Flare, and FCC Flare (7) | NO _x | 3.70 | 16.30 |
| | | CO | 26.80 | 117.40 |
| | | VOC | 74.80 | 327.60 |
| | | SO ₂ | 21.20 | 92.70 |
| | | H ₂ S | 0.20 | 0.90 |
| 91DA702 | Thermal Oxidizer | NO _x | 5.30 | 0.80 |
| | | CO | 2.70 | 0.40 |
| | | VOC | 16.90 | 0.80 |
| 42CB2201 | FCC Unit Stack (8) | NO _x | 270.00 | 172.00 |
| | | CO | 269.00 | 198.00 |
| | | VOC | 13.00 | 37.00 |
| | | SO ₂ | 29.65 | 129.89 |
| | | PM | 93.00 | 240.00 |
| | | NH ₃ | 8.00 | 22.00 |

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- (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
- (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) Tanks 22FB731 and 22FB748 shall not be filled simultaneously.
- (7) Each flare may be used in continuous service and intermittent service (start-up, shutdown, maintenance, or emergency related emissions) as described in the permit renewal application. The emissions described in the permit renewal application are for the entire refinery. Emission rates given above are continuous service emissions. If start-up, shutdown, and maintenance emissions are added to continuous service emissions, the aggregate emission rates are: 12.0 lb/hr and 19.3 TPY for NO_x, 86.5 lb/hr and 139.5 TPY for CO, 255 lb/hr and 393.3 TPY for VOC, 1,402 lb/hr and 115.6 TPY for SO₂, and 14.2 lb/hr and 1.2 TPY for H₂S.
- (8) NO_x shall be calculated as nitrogen dioxide. VOC shall be calculated as propane. Filterable particulate shall not exceed 50 lb/hr, 162 TPY.

Date: December 29, 2015