

Emission Sources - Maximum Allowable Emission Rates

Permit Number 22100

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) |
| S-5A | North Methane Heater | PM | 0.01 | 0.04 |
| | | VOC | 0.01 | 0.03 |
| | | NOx | 0.12 | 0.49 |
| | | CO | 0.10 | 0.41 |
| | | SO ₂ | 0.01 | 0.01 |
| S-5B | South Methane Heater | PM | 0.01 | 0.04 |
| | | VOC | 0.01 | 0.03 |
| | | NOx | 0.12 | 0.49 |
| | | CO | 0.10 | 0.41 |
| | | SO ₂ | 0.01 | 0.01 |
| S-6A | North Sulfur Heater | PM ₁₀ | 0.06 | 0.23 |
| | | VOC | 0.04 | 0.17 |
| | | NOx | 0.67 | 2.93 |
| | | CO | 0.57 | 2.46 |
| | | SO ₂ | 0.01 | 0.02 |
| S-6B | South Sulfur Heater | PM ₁₀ | 0.06 | 0.23 |
| | | VOC | 0.04 | 0.17 |
| | | NO _x | 0.67 | 2.93 |
| | | CO | 0.57 | 2.46 |
| | | SO ₂ | 0.01 | 0.02 |
| S-14 | Unit 196 Reactor Heater | PM | 0.01 | 0.05 |
| | | VOC | 0.01 | 0.04 |
| | | NOx | 0.14 | 0.58 |
| | | CO | 0.12 | 0.49 |
| | | SO ₂ | 0.01 | 0.01 |

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|--------|------------------------------------|--------------------|--------|--------|
| S-15 | 196 Unit Driers Regen Heater | PM | 0.01 | 0.03 |
| | | VOC | 0.01 | 0.02 |
| | | NOx | 0.07 | 0.30 |
| | | CO | 0.06 | 0.26 |
| | | SO ₂ | 0.01 | 0.01 |
| S-17 | Thermal Oxidizer | PM | 0.11 | 0.50 |
| | | H ₂ S | 0.2 | 0.88 |
| | | SO ₂ | 378.96 | 603.39 |
| | | NOx | 0.76 | 3.33 |
| | | CO | 42.22 | 63.33 |
| | | VOC | 0.18 | 0.80 |
| | | Organic Sulfur/TRS | 0.23 | 0.36 |
| S-34 | North Boiler | PM ₁₀ | 0.22 | 0.93 |
| | | VOC | 0.16 | 0.68 |
| | | NOx | 2.79 | 12.21 |
| | | CO | 2.34 | 10.25 |
| | | SO ₂ | 0.01 | 0.05 |
| S-35 | South Boiler | PM ₁₀ | 0.25 | 1.06 |
| | | VOC | 0.18 | 0.77 |
| | | NOx | 0.31 | 1.36 |
| | | CO | 1.03 | 4.52 |
| | | SO ₂ | 0.02 | 0.05 |
| S-37 | Unit 196 Hot Oil Heater (Volcanic) | PM | 0.06 | 0.25 |
| | | VOC | 0.05 | 0.18 |
| | | NOx | 0.38 | 1.64 |
| | | CO | 0.63 | 2.75 |
| | | SO ₂ | 0.01 | 0.02 |
| S-38 | Unit 197 Hot Oil Heater | PM | 0.07 | 0.30 |
| | | VOC | 0.51 | 0.24 |
| | | NOx | 0.90 | 3.91 |
| | | CO | 0.75 | 3.28 |
| | | SO ₂ | 1.30 | 0.04 |
| T-9770 | Tank T-9770 | VOC | 3.96 | 0.67 |

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| | | | | |
|------------------|--|--|--------|--------|
| T-9606 | Tank T-9606 | VOC | 3.96 | 0.67 |
| T-9635 | Tank T-9635 | VOC | 3.96 | 1.03 |
| T-9641 | Tank T-9641 | VOC | 3.96 | 0.94 |
| T-8078 | Tank T-8078 | H ₂ S | 0.02 | 0.01 |
| | | SO ₂ | 0.33 | 0.14 |
| V-8001 | Sulfur Pit | H ₂ S | 0.04 | 0.25 |
| | | SO ₂ | 1.00 | 3.78 |
| T-9094 | Tank T-9094 | VOC | 2.89 | 0.73 |
| T-9705 | Tank T-9705 | VOC | 0.20 | 0.01 |
| TX-9280 | Tank TX-9280 | VOC | 0.05 | 0.01 |
| P-FLR | Plant Flare (6) | VOC | 14.70 | 6.13 |
| | | SO ₂ | 938.02 | 377.42 |
| | | NO _x | 4.67 | 9.16 |
| | | CO | 20.19 | 36.49 |
| | | H ₂ S | 6.40 | 27.9 |
| F-180 | 180 Unit Fugitives(5) | VOC | 0.23 | 1.02 |
| | | H ₂ S | 0.16 | 0.68 |
| F-196 | 196 Unit Fugitives (5) | VOC | 0.26 | 1.13 |
| | | H ₂ S | 0.01 | 0.06 |
| F-197 | 197 Unit Fugitives (5) | VOC | 0.32 | 1.38 |
| | | H ₂ S | 0.08 | 0.35 |
| F-293 | 293 Unit Fugitives (5) | VOC | 0.01 | 0.01 |
| | | H ₂ S | 0.06 | 0.28 |
| F-HZWST | Hazardous Storage/Handling Fugitives (5) | VOC | 0.07 | 0.31 |
| | | H ₂ S | 0.01 | 0.02 |
| F-WST-WTR | Wastewater | VOC | 0.01 | 0.01 |
| S-PYRO | Pyrolysis Furnace | PM/PM ₁₀ /PM _{2.5} | 0.01 | 0.01 |
| | | NO _x | 0.03 | 0.03 |
| | | VOC | 0.02 | 0.02 |
| | | SO ₂ | 0.01 | 0.01 |
| | | CO | 0.05 | 0.05 |
| CT1, CT2 and CT3 | Cooling Tower 1, 2, and 3 | VOC | 0.91 | 1.44 |
| | | H ₂ S | 0.91 | 1.44 |

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|-------------|--|------------------|-------|------|
| P-DEGR | Degreaser | VOC | 0.47 | 1.02 |
| P-REFRIG | Refrigerant Losses | non-VOC | 0.34 | 0.75 |
| TANKMAINT | Plant Maintenance (Storage Tank Degassing) | VOC | 3.70 | 0.18 |
| MSS | Maintenance | VOC | 0.08 | 0.06 |
| P-1 | Painting and Blasting Area | VOC | 6.59 | 2.10 |
| | | PM | 0.78 | 0.59 |
| | | PM ₁₀ | 0.03 | 0.17 |
| P-2 | Painting Operation | VOC | 19.81 | 4.90 |
| B-1 | Abrasive Blasting | PM | 2.54 | 0.46 |
| | | PM ₁₀ | 0.60 | 0.11 |
| PUMPDIESEL1 | Firewater Pump No.1 | NOx | 9.30 | 0.47 |
| | | CO | 2.00 | 0.10 |
| | | VOC | 0.75 | 0.04 |
| | | PM ₁₀ | 0.66 | 0.03 |
| | | SO ₂ | 0.62 | 0.03 |
| PUMPDIESEL2 | Firewater Pump No. 2 | NOx | 9.30 | 0.47 |
| | | CO | 2.00 | 0.10 |
| | | VOC | 0.75 | 0.04 |
| | | PM ₁₀ | 0.66 | 0.03 |
| | | SO ₂ | 0.62 | 0.03 |
| T-DIESEL1 | Diesel Tank | VOC | 0.88 | 0.01 |
| T-DIESEL 2 | Diesel Tank | VOC | 0.44 | 0.01 |
| T-DIESEL 3 | Diesel Tank | VOC | 0.09 | 0.01 |
| T-GASOLINE | Gasoline Tank | VOC | 16.48 | 0.06 |
| VC-9781 | Vacuum Oil Storage Tank | VOC | 0.78 | 0.01 |
| VH-0362 | Brine Storage Tank | VOC | 2.49 | 0.01 |
| VH-9676 | Hot Oil Storage Tank (7) | VOC | 0.01 | 0.99 |
| VH-9677 | Hot Oil Storage Tank (7) | VOC | 0.12 | 0.99 |
| VH-9678 | Hot Oil Storage Tank (7) | VOC | 0.12 | 0.99 |
| VH-9749 | Hot Oil Storage Tank (7) | VOC | 0.01 | 0.99 |
| VH-9792 | Hot Oil Storage Tank (7) | VOC | 0.60 | 9.92 |
| VH-9794 | Hot Oil Storage Tank (7) | VOC | 0.22 | 0.99 |
| TTOTES1-4 | Tote 1 - 4 Loading | VOC | 1.22 | 0.01 |

Emission Sources - Maximum Allowable Emission Rates

- (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)

| | | |
|------------------|---|---|
| PM | - | particulate matter, suspended in the atmosphere, including PM ₁₀ . |
| PM ₁₀ | - | particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted. |
| VOC | - | volatile organic compounds as defined in Title 30 Texas Administrative Code ' 101.1 |
| NOx | - | total oxides of nitrogen |
| CO | - | carbon monoxide |
| SO ₂ | - | sulfur dioxide |
| H ₂ S | - | hydrogen sulfide |
| TRS | - | total reduced sulfur and |
- (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) SSM (start-up, shutdown, maintenance) emissions are part of the total allowable for the flare.
- (7) Only 1 (one) hot oil tank shall be loaded at any given time.

Date September 27, 2012
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