

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 107518 and PSDTX1383M1

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) |
| All Furnace EPNs (OL3- FUR1 through OL3-FUR14) | Pyrolysis Furnace Annual CAP | NO _x | (6) | 167.28 |
| | | CO | (6) | 472.16 |
| | | VOC | (6) | 165.84 |
| | | PM | (6) | 33.73 |
| | | PM ₁₀ | (6) | 33.73 |
| | | PM _{2.5} | (6) | 33.73 |
| | | NH ₃ | (6) | 60.18 |
| | | SO ₂ | (6) | 13.79 |
| OL3-FUR1 | Pyrolysis Furnace 1 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| | | SO ₂ | 0.22 | (6) |
| OL3-FUR2 | Pyrolysis Furnace 2 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |

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| | | | | |
|----------|---------------------|--------------------------------------|-------|-----|
| | | NH ₃ | 1.47 | (6) |
| | | SO ₂ | 0.22 | (6) |
| OL3-FUR3 | Pyrolysis Furnace 3 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| | | SO ₂ | 0.22 | (6) |
| OL3-FUR4 | Pyrolysis Furnace 4 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| | | SO ₂ | 0.22 | (6) |
| OL3-FUR5 | Pyrolysis Furnace 5 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |

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| | | | | |
|----------|---------------------|--------------------------------------|-------|-----|
| OL3-FUR6 | Pyrolysis Furnace 6 | SO ₂ | 0.22 | (6) |
| | | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| OL3-FUR7 | Pyrolysis Furnace 7 | SO ₂ | 0.22 | (6) |
| | | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| OL3-FUR8 | Pyrolysis Furnace 8 | SO ₂ | 0.22 | (6) |
| | | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |

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| | | | | |
|-----------|----------------------|--------------------------------------|-------|-----|
| OL3-FUR9 | Pyrolysis Furnace 9 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| | | SO ₂ | 0.22 | (6) |
| OL3-FUR10 | Pyrolysis Furnace 10 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| | | SO ₂ | 0.22 | (6) |
| OL3-FUR11 | Pyrolysis Furnace 11 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| | | SO ₂ | 0.22 | (6) |
| OL3-FUR12 | Pyrolysis Furnace 12 | NO _x | 5.50 | (6) |

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| | | | | |
|---|-------------------------|--------------------------------------|-------|--------|
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| | | SO ₂ | 0.22 | (6) |
| OL3-FUR13 | Pyrolysis Furnace 13 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| OL3-FUR14 | Pyrolysis Furnace 14 | NO _x | 5.50 | (6) |
| | | NO _x (startup & shutdown) | 15.00 | (6) |
| | | CO | 7.70 | (6) |
| | | CO (startup & shutdown) | 21.00 | (6) |
| | | VOC | 2.70 | (6) |
| | | PM | 0.55 | (6) |
| | | PM ₁₀ | 0.55 | (6) |
| | | PM _{2.5} | 0.55 | (6) |
| | | NH ₃ | 1.47 | (6) |
| All Steam Boiler EPNs (OL3-BOIL1 through OL3-BOIL4) | Steam Boiler Annual CAP | NO _x | (8) | 75.51 |
| | | CO | (8) | 279.39 |

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| | | | | |
|-----------|----------------|--------------------------------------|-------|-------|
| | | VOC | (8) | 64.79 |
| | | PM | (8) | 18.88 |
| | | PM ₁₀ | (8) | 18.88 |
| | | PM _{2.5} | (8) | 18.88 |
| | | NH ₃ | (8) | 36.76 |
| | | SO ₂ | (8) | 75.14 |
| OL3-BOIL1 | Steam Boiler 1 | NO _x | 6.47 | (8) |
| | | NO _x (startup & shutdown) | 43.10 | (8) |
| | | CO | 15.95 | (8) |
| | | VOC | 3.70 | (8) |
| | | PM | 1.08 | (8) |
| | | PM ₁₀ | 1.08 | (8) |
| | | PM _{2.5} | 1.08 | (8) |
| | | NH ₃ | 3.15 | (8) |
| | | SO ₂ | 4.29 | (8) |
| OL3-BOIL2 | Steam Boiler 2 | NO _x | 6.47 | (8) |
| | | NO _x (startup & shutdown) | 43.10 | (8) |
| | | CO | 15.95 | (8) |
| | | VOC | 3.70 | (8) |
| | | PM | 1.08 | (8) |
| | | PM ₁₀ | 1.08 | (8) |
| | | PM _{2.5} | 1.08 | (8) |
| | | NH ₃ | 3.15 | (8) |
| | | SO ₂ | 4.29 | (8) |
| OL3-BOIL3 | Steam Boiler 3 | NO _x | 6.47 | (8) |
| | | NO _x (startup & shutdown) | 43.10 | (8) |
| | | CO | 15.95 | (8) |
| | | VOC | 3.70 | (8) |
| | | PM | 1.08 | (8) |
| | | PM ₁₀ | 1.08 | (8) |
| | | PM _{2.5} | 1.08 | (8) |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|------------------------------|--|--------------------------------------|--------|--------|
| | | NH ₃ | 3.15 | (8) |
| | | SO ₂ | 4.29 | (8) |
| OL3-BOIL4 | Steam Boiler 4 | NO _x | 6.47 | (8) |
| | | NO _x (startup & shutdown) | 43.10 | (8) |
| | | CO | 15.95 | (8) |
| | | VOC | 3.70 | (8) |
| | | PM | 1.08 | (8) |
| | | PM ₁₀ | 1.08 | (8) |
| | | PM _{2.5} | 1.08 | (8) |
| | | NH ₃ | 3.15 | (8) |
| | | SO ₂ | 4.29 | (8) |
| OL3-DK1, OL3-DK2 | Decoking Drums 1 and 2 (7) | VOC | <0.01 | <0.01 |
| | | CO | 196.07 | 68.66 |
| | | PM | 0.52 | 0.18 |
| | | PM ₁₀ | 0.29 | 0.10 |
| | | PM _{2.5} | 0.25 | 0.09 |
| OL3-CTWR | Olefins 3 Cooling Tower | VOC | 5.75 | 25.21 |
| | | Chlorine Compounds | <0.01 | <0.01 |
| | | PM | 7.48 | 20.92 |
| | | PM ₁₀ | 1.76 | 7.72 |
| | | PM _{2.5} | 0.01 | 0.04 |
| PDH-CTWR | PDH Unit Cooling Tower | VOC | 3.75 | 16.44 |
| | | Chlorine Compounds | <0.01 | <0.01 |
| | | PM | 4.88 | 13.64 |
| | | PM ₁₀ | 1.15 | 5.04 |
| | | PM _{2.5} | 0.01 | 0.03 |
| OL3-FUG | Olefins 3 Fugitives | VOC | 124.14 | 543.75 |
| | | Cl ₂ | <0.01 | 0.02 |
| | | NH ₃ | 0.24 | 1.04 |
| OL3-FLRA, OL3-FLRB, OL3-FLRC | Olefins 3 Elevated Flare (1st, 2nd and 3rd Stage tips) | VOC | 34.08 | 50.75 |
| | | NO _x | 79.45 | 140.99 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|------------------------------------|--|-------------------|--------|--------|
| | | CO | 185.43 | 303.32 |
| | | SO ₂ | <0.01 | <0.01 |
| All VCU EPNs (OL3-VCU1 & OL3-VCU2) | Olefins 3 VCU 1 & 2 Annual CAP | VOC | (9) | 1.82 |
| | | NO _x | (9) | 12.76 |
| | | CO | (9) | 32.56 |
| | | PM | (9) | 0.44 |
| | | PM ₁₀ | (9) | 0.44 |
| | | PM _{2.5} | (9) | 0.44 |
| | | SO ₂ | (9) | 0.05 |
| OL3-VCU1 | Olefins 3 VCU 1 | VOC | 0.97 | (9) |
| | | NO _x | 3.80 | (9) |
| | | CO | 10.98 | (9) |
| | | PM | 0.10 | (9) |
| | | PM ₁₀ | 0.10 | (9) |
| | | PM _{2.5} | 0.10 | (9) |
| | | SO ₂ | 0.01 | (9) |
| OL3-VCU2 | Olefins 3 VCU 2 | VOC | 0.97 | (9) |
| | | NO _x | 3.80 | (9) |
| | | CO | 10.98 | (9) |
| | | PM | 0.10 | (9) |
| | | PM ₁₀ | 0.10 | (9) |
| | | PM _{2.5} | 0.10 | (9) |
| | | SO ₂ | 0.01 | (9) |
| OL3-MAPD | MAPD Regeneration Vent | VOC | 0.21 | <0.01 |
| | | CO | 11.55 | 0.05 |
| OL3-GEN | OL3 Unit Diesel Emergency Generator Engine | NO _x | 11.69 | 0.58 |
| | | CO | 6.33 | 0.32 |
| | | VOC | 11.69 | 0.58 |
| | | PM | 0.37 | 0.02 |
| | | PM ₁₀ | 0.37 | 0.02 |
| | | PM _{2.5} | 0.37 | 0.02 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|------------|--|--------------------------------------|-------|--------|
| | | SO ₂ | 0.01 | <0.01 |
| PDH-RXNHTR | PDH Reactor Charge Heater | NO _x | 4.50 | 13.14 |
| | | NO _x (startup & shutdown) | 20.25 | |
| | | CO | 12.67 | 54.24 |
| | | VOC | 2.57 | 11.28 |
| | | PM | 1.55 | 6.79 |
| | | PM ₁₀ | 1.55 | 6.79 |
| | | PM _{2.5} | 1.55 | 6.79 |
| | | NH ₃ | 2.01 | 5.86 |
| | | SO ₂ | 2.99 | 13.08 |
| PDH-WHBLR | PDH Waste Heat Boiler (and Air Heater) | NO _x | 30.59 | 74.45 |
| | | NO _x (startup & shutdown) | 76.49 | |
| | | CO | 55.63 | 148.89 |
| | | VOC | 13.25 | 58.02 |
| | | PM | 3.15 | 13.79 |
| | | PM ₁₀ | 3.15 | 13.79 |
| | | PM _{2.5} | 3.15 | 13.79 |
| | | NH ₃ | 7.18 | 20.96 |
| | | SO ₂ | 2.00 | 8.76 |
| PDH-FUG | PDH Unit Fugitives (5) | VOC | 17.59 | 77.06 |
| | | Cl ₂ | <0.01 | 0.02 |
| | | NH ₃ | 0.05 | 0.21 |
| PDH-GEN | PDH Unit Diesel Emergency Generator Engine | NO _x | 11.64 | 0.58 |
| | | CO | 6.31 | 0.32 |
| | | VOC | 11.64 | 0.58 |
| | | PM | 0.36 | 0.02 |
| | | PM ₁₀ | 0.36 | 0.02 |
| | | PM _{2.5} | 0.36 | 0.02 |
| | | SO ₂ | 0.01 | <0.01 |
| OL3-ACID | Sulfuric Acid Tank | H ₂ SO ₄ | 1.27 | 0.03 |
| OL3-PLO | PGC Lube Oil Reservoir | VOC | 0.91 | <0.01 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|--|--|--------------------------------|---------|--------|
| OL3-PRLO | PRC Lube Oil Reservoir | VOC | 0.37 | <0.01 |
| OL3-BRLO | BRC Lube Oil Reservoir | VOC | 0.47 | <0.01 |
| OL3-Chem1 | Amine Storage Tank | VOC | 0.79 | <0.01 |
| OL3-Chem2 | Amine Storage Tank | VOC | 0.79 | <0.01 |
| OL3-Chem3 | Inhibitor Storage Tank | VOC | 7.36 | 0.06 |
| OL3-Chem4 | Inhibitor Storage Tank | VOC | 7.36 | 0.06 |
| OL3-Chem5 | Amine Storage Tank | VOC | 0.79 | 0.01 |
| OL3-Chem6 | OL3 BFW Amine Tank | VOC | 2.08 | 0.01 |
| OL3-Chem7 | Package Boilers BFW Amine Tank | VOC | 0.71 | 0.01 |
| OL3-DIES | OL3 Emergency Generator Diesel Storage Tank | VOC | 0.10 | <0.01 |
| OL3-ACID2 | Zimpro Acid Day Tank | H ₂ SO ₄ | 4.30 | 0.04 |
| PDH-PLO | PGC Lube Oil Reservoir | VOC | 0.02 | <0.01 |
| PDH-PRLO | PRC Lube Oil Reservoir | VOC | 0.02 | <0.01 |
| PDH-ACID | Sulfuric Acid Tank | H ₂ SO ₄ | 1.02 | <0.01 |
| PDH-ERLO | ERC Lube Oil Reservoir | VOC | 0.02 | <0.01 |
| PDH-Chem1 | Amine Storage Tank | VOC | 0.49 | <0.01 |
| PDH-Chem2 | Inhibitor Storage Tank | VOC | 4.48 | 0.06 |
| PDH-Chem3 | Inhibitor Storage Tank | VOC | 4.48 | 0.06 |
| PDH-Chem4 | Inhibitor Storage Tank | VOC | 3.72 | 0.05 |
| PDH-Chem5 | Product Inhibitor Storage Tank | VOC | 3.72 | 0.05 |
| PDH-DIES | Diesel Storage Tank | VOC | 0.21 | <0.01 |
| PDH-RALO1 | RAC 1 Lube Oil Reservoir | VOC | 0.02 | <0.01 |
| PDH-RALO2 | RAC 2 Lube Oil Reservoir | VOC | 0.02 | <0.01 |
| PDH-TRK | PDH Truck Loading Fugitives | VOC | 0.06 | <0.01 |
| PDH-MSSVO | PDH Maintenance Fugitives | VOC-MSS | 68.69 | 1.82 |
| | | Inorganics – MSS | 0.16 | <0.01 |
| OL3-MSSVO | MSS - Vessel Opening | VOC-MSS | 214.73 | 6.99 |
| | | Inorganics – MSS | 1.90 | <0.01 |
| OL3-FLRA, OL3-FLRB, OL3-TEMP, PDH-TEMP | MSS Degassing to Flare or Temporary Control Device | VOC – MSS | 5057.15 | 102.27 |
| | | NO _x – MSS | 1615.32 | 19.95 |
| | | CO – MSS | 8321.30 | 102.78 |

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)

| | | |
|--------------------------------|---|--|
| VOC | - | volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1 |
| NO _x | - | total oxides of nitrogen |
| SO ₂ | - | sulfur dioxide |
| PM | - | total particulate matter, suspended in the atmosphere, including PM ₁₀ and PM _{2.5} , as represented |
| PM ₁₀ | - | 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 |
| H ₂ SO ₄ | - | sulfuric acid mist |
| Cl ₂ | - | chlorine |
| NH ₃ | - | ammonia |
| Chlorine Compounds | - | includes hypochlorous and hydrochloric acids |
- (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) Annual emissions included in annual compliance CAP for pyrolysis furnaces (EPNs OL3- FUR1 through OL3-FUR14).
- (7) Maximum emissions from decoking all furnaces to either decoke drum (EPN OL3-DK1 or OL3-DK2).
- (8) Annual emissions included in annual compliance CAP for steam boilers (EPNs OL3-BOIL1 through OL3-BOIL4).
- (9) Annual emissions included in annual compliance CAP for VCU's (EPNs OL3-VCU1 & OL3-VCU2).

Date: December 15, 2021