

Emission Sources - Maximum Allowable Emission Rates

Permit Number 865A and PSDTX1016M1

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) |
| INCIN | Incinerator - Total | PM | 0.89 | 3.90 |
| | | PM ₁₀ | 0.89 | 3.90 |
| | | PM _{2.5} | 0.89 | 3.90 |
| | | SO ₂ | 139.00 | 78.00 |
| | | NOx | 1.57 | 6.87 |
| | | CO | 2.03 | 8.90 |
| | | VOC | 0.37 | 1.48 |
| | | H ₂ S | 0.10 | 0.42 |
| | | TRS | 0.36 | 1.43 |
| SULFOX-TO | Thermal Oxidizer 1 | PM | 5.71 | 25.01 |
| | | PM ₁₀ | 5.71 | 25.01 |
| | | PM _{2.5} | 5.71 | 25.01 |
| | | SO ₂ (Normal Operations) | 23.66 | 13.93 |
| | | SO ₂ (MSS) | 100.00 | |
| | | NOx | 16.16 | 70.66 |
| | | CO | 32.70 | 70.52 |
| | | VOC | 6.66 | 15.26 |
| | | TRS | 0.02 | 0.01 |
| S-1 | Sulfur Storage Tank | SO ₂ | 0.02 | 0.02 |
| | | H ₂ S | 0.03 | 0.02 |
| | | TRS | 0.03 | 0.02 |
| S-3 | Sulfur Truck | SO ₂ | 0.06 | 0.06 |
| | | H ₂ S | 0.02 | 0.02 |
| | | TRS | 0.02 | 0.02 |
| F-1 Project Number: 306708 | H ₂ S Plant Fugitives (8) | VOC | <0.01 | 0.02 |
| | | H ₂ S | < 0.01 | <0.01 |

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| | | | | |
|-------------------------------------|---|------------------------------------|----------|--------|
| | | TRS | <0.01 | 0.02 |
| BMT-1M | Train 1 – MeSH Production Fugitives (8) | VOC | 0.19 | 0.85 |
| | | H ₂ S | 0.02 | 0.07 |
| | | TRS | 0.16 | 0.72 |
| BMT-2M | Train 2 – MeSH Production Fugitives (8) | VOC | 0.06 | 0.25 |
| | | H ₂ S | 0.02 | 0.10 |
| | | TRS | 0.04 | 0.17 |
| ACRO-Fug | Acrolein Process Fugitives (8) | VOC | 0.35 | 1.52 |
| | | H ₂ S | < 0.01 | < 0.01 |
| | | TRS | < 0.01 | < 0.01 |
| MMP-Fug | MMP Process Area Fugitives (8) | VOC | 0.17 | 0.73 |
| | | TRS | 0.08 | 0.35 |
| ColumnMain | Acrolein Unit Column/Filter Cleaning | VOC | 0.01 | 0.01 |
| D307 | Methanol Tank | VOC | 2.32 | 0.22 |
| | Methanol Tank (MSS) | VOC (9) | 3.08 | 1.86 |
| D2307 | Methanol Tank | VOC | 2.32 | 0.22 |
| | Methanol Tank (MSS) | VOC (9) | 3.08 | 1.86 |
| D398 | Gasoline Tank | VOC | 4.56 | 0.22 |
| D215 | Diesel Tank | VOC | 0.02 | 0.01 |
| D399 | Diesel Tank | VOC | 0.02 | 0.01 |
| D3191A | Diesel Tank | VOC | 0.02 | 0.01 |
| D3191B | Diesel Tank | VOC | 0.02 | 0.01 |
| D8540 | Caustic Tank | NaOH | 0.01 | 0.01 |
| FLARE Project Number: 306708 | Flare Limits both routine and MSS operation (5) (6) | CO | 193.54 | 74.35 |
| | | H ₂ S | 24.08 | 2.82 |
| | | H ₂ SO ₄ | 7.21 | 31.57 |
| | | H ₂ SO ₄ (5) | 29.18 | |
| | | NO _x | 22.56 | 8.67 |
| | | SO ₂ | 625.00 | 448.96 |
| | | SO ₂ (5) | 3,065.51 | |
| | | TRS | 37.52 | 8.84 |
| | | TRS (5) | 92.52 | |

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| | | | | |
|------------------------------------|--|-------------------|--------|-------|
| | | VOC (5) | 70.32 | |
| H401/H402 | Sulfur Heater 401 & Methane Heater 402 (7) | CO | 1.32 | 5.77 |
| | | NO _x | 1.61 | 7.04 |
| | | PM | 0.11 | 0.52 |
| | | PM ₁₀ | 0.11 | 0.52 |
| | | PM _{2.5} | 0.11 | 0.52 |
| | | SO ₂ | 0.01 | 0.05 |
| | | VOC | 0.09 | 0.38 |
| H501/H502 | Sulfur Heater 501 & Methane Heater 502 (7) | CO | 1.32 | 5.77 |
| | | NO _x | 1.61 | 7.04 |
| | | PM | 0.11 | 0.52 |
| | | PM ₁₀ | 0.11 | 0.52 |
| | | PM _{2.5} | 0.11 | 0.52 |
| | | SO ₂ | 0.01 | 0.05 |
| | | VOC | 0.09 | 0.38 |
| SULFOX-CT | Sulfox Cooling Tower | PM | 0.04 | 0.18 |
| | | PM ₁₀ | 0.04 | 0.18 |
| | | PM _{2.5} | 0.04 | 0.18 |
| | | VOC | 0.43 | 1.89 |
| SULFOX-INH | Bagfilter | PM | 0.08 | 0.01 |
| | | PM ₁₀ | 0.08 | 0.01 |
| | | PM _{2.5} | 0.08 | 0.01 |
| BMT-1E/T | Train 1 – EtSH Production Fugitives (8) | VOC | 0.07 | 0.31 |
| | | H ₂ S | < 0.01 | 0.01 |
| | | TRS | < 0.01 | 0.01 |
| STORAGE | Storage Tanks Fugitives (8) | VOC | 0.21 | 0.93 |
| | | TRS | 0.18 | 0.80 |
| SulfoxChlr | Sulfox Chiller System (8) | HCFC | 0.01 | 0.01 |
| H202 Project Number: 306708 | Heat Transfer Fluid Heater (31 MMBtu/hr) | CO | 2.59 | 11.32 |
| | | NO _x | 3.08 | 13.48 |
| | | PM | 0.23 | 1.02 |
| | | PM ₁₀ | 0.23 | 1.02 |

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|--------|---|-------------------|------|-------|
| | | SO ₂ | 0.02 | 0.08 |
| | | VOC | 0.17 | 0.74 |
| H2202 | Heat Transfer Fluid Heater (31 MMBtu/hr) | CO | 2.59 | 11.32 |
| | | NO _x | 3.08 | 13.48 |
| | | PM | 0.23 | 1.02 |
| | | PM ₁₀ | 0.23 | 1.02 |
| | | PM _{2.5} | 0.23 | 1.02 |
| | | SO ₂ | 0.02 | 0.08 |
| | | VOC | 0.17 | 0.74 |
| X-426A | Steam Boiler (15.8 MMBtu/hr) | CO | 1.33 | 5.81 |
| | | NO _x | 2.05 | 9.00 |
| | | PM | 0.12 | 0.53 |
| | | PM ₁₀ | 0.12 | 0.53 |
| | | PM _{2.5} | 0.12 | 0.53 |
| | | SO ₂ | 0.01 | 0.04 |
| | | VOC | 0.09 | 0.38 |
| X-426B | Steam Boiler (15.8 MMBtu/hr) | CO | 1.33 | 5.81 |
| | | NO _x | 2.05 | 9.00 |
| | | PM | 0.12 | 0.53 |
| | | PM ₁₀ | 0.12 | 0.53 |
| | | PM _{2.5} | 0.12 | 0.53 |
| | | SO ₂ | 0.01 | 0.04 |
| | | VOC | 0.09 | 0.38 |

(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)
- CO - carbon monoxide
 - NO_x - total oxides of nitrogen
 - PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}
 - PM₁₀ - particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}
 - PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
 - SO₂ - sulfur dioxide
 - VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 - NaOH - sodium hydroxide

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| | |
|--------------------------------|--|
| H ₂ SO ₄ | - sulfuric acid |
| H ₂ S | - hydrogen sulfide |
| TRS | - total reduced sulfur, includes H ₂ S and sulfur bearing VOC, excludes SO ₂ |
| HFCH | - hydrochlorofluorocarbon |

- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Allowable Flare short term rate during high flow events, limited to 100 hours per year.
- (6) Includes operation of the flare as the backup control device for EPN SULFUX-TO when it is not operating and 416 hours per calendar year for EPN INCIN when it is not operating.
- (7) Common exhaust stack.
- (8) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (9) Planned startup, shutdown and maintenance activity emissions.

Date: November 6, 2019