

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 7719A

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. 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 * | |
|---------------------------|-----------------------------|-----------------------------|------------------|-------|
| | | | lb/hr | TPY |
| F-CT3 | Cooling Tower | VOC | 0.07 | 0.29 |
| | | Chlorine | 0.03 | 0.12 |
| | | Bromine | 0.03 | 0.12 |
| F-R1 | Process Fugitives (4) | VOC | 1.82 | 7.99 |
| | | H ₂ S | 0.03 | 0.13 |
| | Process Fugitives (4 and 5) | VOC | 2.25 | 9.88 |
| | | H ₂ S | 0.05 | 0.22 |
| F-R2 | Powder Boxing Stations | PM | <0.01 | 0.01 |
| | Powder Boxing Stations (5) | PM | <0.01 | 0.02 |
| F-R3 | Blower Discharge | PM | 0.14 | 0.61 |
| H-8 | No. 1 Heater | CO | 1.25 | 5.48 |
| | | NO _x | 2.39 | 10.48 |
| | | SO ₂ | 0.96 | 0.10 |
| | | VOC | 0.10 | 0.44 |
| | | PM | 0.49 | 2.15 |
| H-9 | No. 2 Heater | CO | 1.25 | 5.48 |
| | | NO _x | 2.39 | 10.48 |
| | | SO ₂ | 0.96 | 0.10 |
| | | VOC | 0.10 | 0.44 |
| | | PM | 0.49 | 2.15 |
| R-R1 | North DCB Railcar | VOC | 0.62 | 2.72 |

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| | | | lb/hr | TPY |
| R-R2 | NaSH Railcar | H ₂ S | 0.07 | 0.34 |
| R-V1 | Acetic Acid Scrubber | VOC | 0.01 | <0.01 |
| R-V2 | Crude NMP Surge Tank Cond. | VOC | 0.54 | 2.38 |
| | | H ₂ S | 0.10 | 0.38 |
| | | Acetone | <0.01 | <0.01 |
| R-V3 | Cure Vessel Vent Scrubber YA25 | VOC | 0.48 | 1.04 |
| | | PM ₁₀ | <0.01 | 0.02 |
| | | PM | 0.06 | 0.28 |
| | | Acetone | <0.01 | <0.01 |
| R-V5 | Cure Vessel Vent Scrubber YA24 | VOC | 0.48 | 1.04 |
| | | PM ₁₀ | <0.01 | 0.02 |
| | | PM | 0.06 | 0.28 |
| | | Acetone | <0.01 | <0.01 |
| R-V8 | Dehydration Scrubber | VOC | 0.01 | 0.03 |
| | | H ₂ S | <0.01 | 0.01 |
| | | Acetone | <0.01 | <0.01 |
| R-V11 | Low-Pressure K. O. Pot | VOC | 0.55 | 1.95 |
| | | H ₂ S | 0.39 | 1.73 |
| | | Acetone | 0.02 | 0.07 |
| R-V12 | Process Water Sump | VOC | 0.02 | 0.06 |
| | | Acetone | <0.01 | 0.01 |
| R-V13 | No. 1 Dryer Vent (6) | VOC | 0.70 | 3.07 |
| | | Acetone | 0.05 | 0.21 |
| R-V14 | No. 3 Dryer Vent | VOC | 4.03 | 10.93 |
| | | PM ₁₀ | 1.16 | 5.54 |
| | | Acetone | 0.27 | 0.74 |
| R-V15 | No. 1 Belt Filter | H ₂ S | 0.01 | 0.03 |

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| | | | lb/hr | TPY |
| R-V16 | Train B No. 2 Dryer Vent (5) | VOC | 4.02 | 10.92 |
| | | PM ₁₀ | 0.28 | 1.23 |
| | | Acetone | 0.27 | 0.74 |
| R-V17 | Train B No. 2 Dehydration Scrubber (5) | VOC | 0.01 | 0.03 |
| | | H ₂ S | <0.01 | 0.01 |
| | | Acetone | <0.01 | <0.01 |
| T-95-28 | Lights Column Phase Separator | VOC | 0.06 | 0.31 |
| | | Acetone | 0.01 | 0.02 |
| T-95-114 | NMP Storage Tank | VOC | 0.02 | 0.07 |
| T-95-136 | Filter Feed Tank | VOC | 0.12 | 0.43 |
| | | H ₂ S | 0.12 | 0.45 |
| | | Acetone | <0.01 | 0.02 |
| T-95-160 | No. 6 Slurry Tank | VOC | 0.01 | 0.04 |
| | | Acetone | <0.01 | <0.01 |
| T-95-166 | NMP Heavies (M-5) | VOC | 0.86 | 0.10 |
| T-95-167 | Crude NMP Tank (M-6) | VOC | 0.02 | 0.07 |
| T-95-169A | S. Fresh/Recycle NMP | VOC | 0.02 | 0.07 |
| T-95-169B | N. Fresh/Recycle NMP | VOC | 0.02 | 0.07 |
| T-95-170 | NaSH Storage Tank | H ₂ S | 3.24 | 0.56 |
| T-95-174 | No. 1 Slurry Tank | VOC | 0.01 | 0.04 |
| | | Acetone | <0.01 | <0.01 |
| T-95-182 | NaSH Waste/Recycle Tank | H ₂ S | 4.68 | 0.07 |

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| | | | lb/hr | TPY |
| T-95-YA04 | Train B No. 2 Feed Filter Tank (5) | VOC | 0.12 | 0.44 |
| | | H ₂ S | 0.12 | 0.45 |
| | | Acetone | <0.01 | 0.02 |

- (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 Section 101.1
 - H₂S - hydrogen sulfide
 - PM - particulate matter, suspended in the atmosphere, including PM₁₀ from that emission point
 - PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
 - CO - carbon monoxide
 - NO_x - total oxides of nitrogen
 - SO₂ - sulfur dioxide
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) Emission rate after the installation of emission controls as specified in Special Condition No. 7 and production increase above the interim limit.
- (6) Emission point void after debottlenecking allows production to be increased above the interim limit.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

_____Hrs/day ____ Days/week ____Weeks/year or 8,760 Hrs/year

Dated May 1, 2002