

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 1790

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) | <u>Emission Rates *</u> | |
|---------------------------|----------------------------|--|-------------------------|--------|
| | | | lb/hr | TPY |
| 5ABS-005 Only | High-Pressure Scrubber | Start-up, Upset, and Maintenance Service | | |
| 5ABS-013 Only | Low-Pressure Scrubber | Start-up, Upset, and Maintenance Service | | |
| 05COM-001 | Portable Compressors | CO | 5.64 | 6.35 |
| | | NO _x | 0.20 | 0.23 |
| | | VOC | 2.82 | 3.17 |
| 5FUG-050 | KA Fugitives (4) | VOC | 2.79 | 12.22 |
| 5LBA-048 | KA Barge Loading/Unloading | VOC | 0.72 | 0.19 |
| 05LDR-051 | Cyclohexane Drum Loading | VOC | 0.61 | <0.001 |
| 5LTR-034 | KA Trailer Loading | VOC | 0.40 | 0.10 |
| 5LTR-054 | NVR Trailer Loading | VOC | 0.56 | 0.025 |
| 05TFL-07B | No. 3 Cyane Tank | VOC | 0.40 | 0.39 |
| 05TFL-07C | No. 4 Cyane Tank | VOC | 0.40 | 0.39 |
| 05TFL-07D | No. 6 De-inventory Tank | VOC | 0.40 | 0.31 |
| 05TFL-07E | No. 61 Cyane Tank | VOC | 0.40 | 0.39 |
| 05TFX-008 | Lean Oil Tank | VOC | 4.33 | 0.021 |
| 05TFX-009 | DEHPA Tank | VOC | 0.03 | 0.007 |

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| | | | Emission Rates * | |
| | | | lb/hr | TPY |
| 05TFX-010 | DEHPA Metering Tank | VOC | 0.01 | 0.001 |
| 05TFX-011 | EDTA Tank | VOC | 0.001 | <0.001 |
| 05TFX-012 | EDTA Metering Tank | VOC | <0.001 | <0.001 |
| 05TFX-015 | Seal Flush Tank | VOC | 0.001 | <0.001 |
| 05TFX-016 | Cobalt Catalyst Tank | VOC | 2.0 | 0.031 |
| 05TFX-017 | Chromium Tank | VOC | 0.13 | 0.012 |
| 05TFX-18A | No. 5 KA Tank | VOC | 0.043 | 0.374 |
| 05TFX-18B | No. 11 KA Tank | VOC | 0.061 | 0.59 |
| 05TFX-18C | No. 52 KA Tank | VOC | 0.061 | 0.59 |
| 05TFX-18D | No. 53 KA Tank | VOC | 0.061 | 0.59 |
| 05TFX-019 | Catalyst Metering Tank | VOC | 0.01 | <0.001 |
| 05TFX-020 | NVR Storage Tank K-2 | VOC | <0.001 | 0.081 |
| 05TFX-021 | NVR Storage Tank K-1 | VOC | 0.46 | 0.152 |
| 05TFX-022 | Divert Tank K-6 | VOC | 0.92 | 0.096 |
| 05TFL-023 | Divert Tank K-8 | VOC | 0.92 | 0.096 |
| 05TFX-024 | NVR Storage Tank K-7 | VOC | <0.001 | 0.035 |
| 05TFL-025 | Divert Tank K-10 | VOC | 0.92 | 0.096 |
| 05TFX-026 | KA Storage Tank K-51 | VOC | 0.013 | 0.927 |
| 05TFX-027 | 50A Tank | VOC | 0.0043 | 0.0054 |

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| | | | Emission Rates * | |
| | | | lb/hr | TPY |
| 05TFX-028 | 50B Tank | VOC | 0.005 | 0.078 |
| 05TFX-029 | 50C Tank | VOC | 0.005 | 0.035 |
| 05TFX-030 | 50D Tank | VOC | 0.005 | 0.035 |
| 05TFX-032 | Unichem Tank | VOC | 0.02 | 0.003 |
| 05TFX-033 | Crude KA/KALL Tank | VOC | 0.38 | 13.526 |
| 05TFX-035 | Aqueous Waste Divert Tank | VOC | 0.001 | 0.016 |
| 05TFX-038 | Spill Control Containment | VOC | 0.0005 | <0.001 |
| 05TFX-039 | No. 2 Chromium DEHPA Metering Tank | VOC | 0.01 | <0.001 |
| 05TFX-046 | Chrome/DEHPA Day Tank | VOC | 0.01 | 0.002 |
| 05TFX-049 | Portable Diesel Tank | VOC | 0.01 | 0.01 |
| 05VNT-014 | Steam Still Vent | Maintenance Service Only | | |
| 05VNT-037 | Steam Still Decanter Vent | Maintenance Service Only | | |
| FD-27 | AA Plant Fugitives (4) | VOC | 0.07 | 0.30 |
| PD-4 | West Cone Burner (5) | CO | 5.1 | 22.30 |
| | | NO _x | 52.90 | 39.80 |
| | | VOC | 0.10 | 0.44 |
| PD-5 | East Cone Burner (5) | See footnote. | | |
| PD-16A | No. 1 Dryer Dust Scrubber | PM | 4.00 | 12.00 |

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| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | <u>Emission Rates *</u> | |
| | | | lb/hr | TPY |
| PD-16B | No. 2 Dryer Dust Scrubber | PM | 4.00 | 12.00 |
| PD-17 | Adipic Acid Loading | PM | 0.94 | 1.2 |
| PD-25 Only | Absorber Vent | Startup, Upset, and Maintenance Service | | |
| PD-32 | Adipic Acid Solution Tank | NO _x | 0.30 | 0.72 |
| PD-33 | No. 1 Vacuum Jet Seal Tank | NO _x | 0.16 | 0.39 |
| PD-34 | No. 2 Vacuum Jet Seal Tank | NO _x | 0.04 | 0.09 |
| PD-35 | No. 1 RML Receiver | NO _x | 0.023 | 0.10 |
| PD-36 | No. 2 RML Receiver | NO _x | 0.023 | 0.10 |
| PD-37 | No. 1 RML Tank | NO _x | 0.37 | 0.89 |
| PD-38 | No. 2 RML Tank | NO _x | 0.15 | 0.37 |
| PD-39 | Solution Water Receiver | NO _x | 0.023 | 0.10 |
| PD-40 | Solution Water Tank | NO _x | 0.36 | 0.86 |
| PD-41 | No. 1 Refined Solution Receiver | NO _x | 0.023 | 0.10 |
| PD-42 | No. 2 Refined Solution Receiver | NO _x | 0.023 | 0.10 |
| PD-43 | PML Tank Vent | NO _x | <0.10 | <0.10 |
| PD-45 | DBE Storage Tank Vent | VOC | 0.53 | 3.344 |
| PD-49 | Refined Solution Storage Tank | NO _x | 0.17 | 0.40 |

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AIR CONTAMINANTS DATA

| Emission * | Source | Air Contaminant | <u>Emission Rates</u> | |
|---------------|---|------------------------|-----------------------|-------|
| Point No. (1) | Name (2) | Name (3) | lb/hr | TPY |
| PD-50 | N ₂ O/NO _x Abater | CO | 5.30 | 12.20 |
| | | NH ₃ 2.10 | 5.00 | |
| | | NO _x 43.10 | 30.00 | |
| | | N ₂ O 3,405 | 7,892 | |
| | | VOC 2.10 | 5.00 | |
| PJ-14I | Methanol Tank No. 41 | VOC | 0.05 | 0.12 |
| PJ-14J | Methanol Tank No. 42 | VOC | 0.05 | 0.12 |
| MEOH-Fug | Methanol Area Fugitives (4) | VOC | 0.15 | 0.64 |

(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.

Cyane - cyclohexane

DBE - dibasic esters

DEHPA - [Defined in the confidential file]

EDTA - Ethylenediaminetetraacetic acid

KA - Ketone-Alcohol mixture of cyclohexanone and cyclohexanol

KALL - Ketone-Alcohol lower layer

NVR - non volatile residue

PML - Purge Mother Liquor (dibasic acid and water)

RML - Refined Mother Liquor (adipic acid and water)

(3) CO - carbon monoxide

NH₃ - ammonia

NO_x - total oxides of nitrogen

N₂O - nitrous oxide

PM - particulate matter, suspended in the atmosphere, including PM₁₀

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.

VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1.

(4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable

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|----------------------|-----------------|-----------------|-----------------------|------------|
| <u>Point No. (1)</u> | <u>Name (2)</u> | <u>Name (3)</u> | <u>lb/hr</u> | <u>TPY</u> |

emission rate.

- (5) The holder of this permit, at his option, may emit all or part of the emissions allowed from the West Cone Burner (EPN PD-4) through the East Cone Burner (EPN PD-5). The sum of all emissions from both EPNs PD-4 and PD-5 may not exceed the maximum allowable emission rates shown for EPN PD-4.

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

Hrs/day ____ Days/week ____ Weeks/year ____ or Hrs/year 8,760

Dated _____