EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 37887

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 | Source | | Air Contaminant | Emission | Rates * |
|---------------|--|-------------------------------------|---|---------------------------------------|--------------------------------------|
| Point No. (1) | Name (2) | | Name (3) | lb/hr | TPY** |
| ACIDSCRB | Acid Scrubber | | AA HCI HF HNO ₃ H ₃ PO ₄ | 0.01 0.88 0.11 0.02 0.01 | 0.01 0.09 0.03 0.01 0.01 |
| ANHFSCRB | Anhydrous HF₃ Area Scru | ıbber | HF | 0.21 | 0.09 |
| BOILER | Boiler | NO _x | CO 0.69 PM ₁₀ SO ₂ VOC | 0.11 2.12 0.06 0.07 0.02 | 0.46 0.26 0.31 0.07 |
| DIESLTK | Diesel Storage Tank | | VOC | 0.01 | <0.01 |
| GENERTR | Diesel Generator (5) | PM ₁₀ SO ₂ | CO NO _x 0.71 0.67 VOC | 2.20 10.14 0.32 0.30 0.83 | 0.96 4.44 0.37 |
| HFHCLTOTE | Tote and Drum Loading | | HCI HF | 0.02 0.01 | 0.01 0.01 |
| IPAAMMTOTE | IPA and NH₄OH Tote and Drum Loading | | IPA NH₄OH | 0.14 0.03 | 0.01 0.01 |
| IPAVENT | IPA Vent | | IPA | 4.81 | 8.75 |

| LABVENT | Lab Vent | | IPA | 6.52 | 1.19 |
|----------|-----------------------|-------------|---|--|---|
| NH₃SCRUB | Ammonia Scrubber | | H ₂ O ₂ NH ₄ OH | 0.01 0.54 | 0.01 0.59 |
| NH₃UNLD | NH₃ Railcar Unloading | | NH ₃ | 0.08 | 0.01 |
| TK300 | Storage Tank T-300 | | IPA | 6.68 | 1.02 |
| TK301 | Storage Tank T-301 | | IPA | 0.35 | 0.09 |
| TOTE | Tote and Drum Loading | | AA Acetone CH ₃ OH H ₂ O ₂ H ₃ PO ₄ HNO ₃ KOH NaOH NH ₄ F NBA NMP TMAH | 0.17 5.22 1.77 0.02 0.25 0.17 1.13 1.13 1.13 0.63 1.13 1.04 | 0.06 1.1 0.38 0.03 0.09 0.06 0.29 0.29 0.29 0.20 0.29 |
| FUGITIVE | Process Fugitives (4) | H₂SO HCl | 0.03 | 0.26 0.09 0.11 | 1.13 |
| | | HF | AHF 0.02 | 0.04 0.07 | 0.19 |
| | | NH_3 | IPA 0.06 | 0.28 0.24 | 1.23 |
| | | | NH₄OH | 0.01 | 0.04 |

⁽¹⁾ Emission point identification - either specific equipment designation or emission point number from a plot plan.

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| (3) AA - acetic acid AHF - anhydrous hydrogen fluoride CH ₃ OH - methanol CO - carbon monoxide HCI - hydrogen chloride HF - hydrogen fluoride HNO ₃ - nitric acid H ₂ O ₂ - hydrogen peroxide H ₃ PO ₄ - phosphoric acid IPA - isopropyl alcohol KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH ₃ - ammonia NH ₄ F - ammonia NH ₄ F - ammonim fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _x - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year ** Compliance with annual emission limits is based on a rolling 12-month period. | ` ' | • | • | int source names. For fugitive sources use area name or fugitive source name. |
|--|-----|------------------|-----|---|
| CH ₃ OH - methanol CO - carbon monoxide HCI - hydrogen chloride HF - hydrogen fluoride HNO ₃ - nitric acid H ₂ O ₂ - hydrogen peroxide H ₃ PO ₄ - phosphoric acid IPA - isopropyl alcohol KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH ₃ - ammonia NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NNP - n-methylpyrrolidone NO _X - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | (3) | | | |
| CO - carbon monoxide HCI - hydrogen chloride HF - hydrogen fluoride HNO ₃ - nitric acid H ₂ O ₂ - hydrogen peroxide H ₃ PO ₄ - phosphoric acid IPA - isopropyl alcohol KOH - potassium hydroxide NBA - n-butyl acetate NH ₄ F - ammoniam NH ₄ F - ammonium fluouride (salt) NH ₄ OH - m-methylpyrrolidone NO ₂ - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | | | , , , |
| HCI - hydrogen chloride HF - hydrogen fluoride HNO ₃ - nitric acid H ₂ O ₂ - hydrogen peroxide H ₃ PO ₄ - phosphoric acid IPA - isopropyl alcohol KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH ₃ - ammoniam fluouride (salt) NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium fluouride (salt) NH ₄ OH - n-methylpyrrolidone NO _X - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | CH₃OH | | |
| HF - hydrogen fluoride HNO ₃ - nitric acid H ₂ O ₂ - hydrogen peroxide H ₃ PO ₄ - phosphoric acid IPA - isopropyl alcohol KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH ₃ - ammonia NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _X - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | CO | - | carbon monoxide |
| HNO3 - nitric acid H ₂ O2 - hydrogen peroxide H ₃ PO4 - jnosphoric acid IPA - isopropyl alcohol KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH3 - ammonia NH4F - ammonium fluouride (salt) NH4OH - methylpyrrolidone NOx - total oxides of nitrogen PM10 - particulate matter (PM) 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. SO2 - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | | - | hydrogen chloride |
| H ₂ O ₂ - hydrogen peroxide H ₃ PO ₄ - phosphoric acid IPA - isopropyl alcohol KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH ₃ - ammonia NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _x - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | HF | - | hydrogen fluoride |
| H₃PO₄ - phosphoric acid IPA - isopropyl alcohol KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH₃ - ammonium fluouride (salt) NH₄F - ammonium fluouride (salt) NH₄OH - ammonium hydroxide NMP - n-methylpyrrolidone NO₂ - total oxides of nitrogen PM₁₀ - particulate matter (PM) 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. SO₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H₂SO₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | HNO_3 | - | nitric acid |
| IPA - isopropyl alcohol KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH ₃ - ammonia NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _X - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | H_2O_2 | - | hydrogen peroxide |
| KOH - potassium hydroxide NaOH - sodium hydroxide NBA - n-butyl acetate NH ₃ - ammonia NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _X - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | H_3PO_4 | - | phosphoric acid |
| NaOH - sodium hydroxide NBA - n-butyl acetate NH ₃ - ammonia NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _X - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | IPA | - | isopropyl alcohol |
| NBA - n-butyl acetate NH ₃ - ammonia NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _x - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | KOH | - | potassium hydroxide |
| NH ₃ - ammonia NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _x - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | NaOH | - | sodium hydroxide |
| NH ₄ F - ammonium fluouride (salt) NH ₄ OH - ammonium hydroxide NMP - n-methylpyrrolidone NO _x - total oxides of nitrogen PM ₁₀ - particulate matter (PM) 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. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | NBA | - | n-butyl acetate |
| NH₄OH - ammonium hydroxide NMP - n-methylpyrrolidone NO_x - total oxides of nitrogen PM₁₀ - particulate matter (PM) 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. SO₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H₂SO₄ - sulfuric acid Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | | | |
| NMP - n-methylpyrrolidone NO_x - total oxides of nitrogen PM₁₀ - particulate matter (PM) 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. SO₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H₂SO₄ - sulfuric acid Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | | | · · · |
| NOx - total oxides of nitrogen PM₁₀ - particulate matter (PM) 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. SO₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H₂SO₄ - sulfuric acid Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | NH₄OH | | |
| PM₁₀ - particulate matter (PM) 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. SO₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 | | NMP | - | n-methylpyrrolidone |
| not listed, it shall be assumed that no PM greater than 10 microns is emitted. SO ₂ - sulfur dioxide TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H ₂ SO ₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | NO_X | - | total oxides of nitrogen |
| TMAH - tetramethylammonium hydroxide VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H₂SO₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | PM ₁₀ | - | |
| VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1 H₂SO₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | SO_2 | - | sulfur dioxide |
| 101.1 H₂SO₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | TMAH | - | tetramethylammonium hydroxide |
| 101.1 H₂SO₄ - sulfuric acid (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | | VOC | - | volatile organic compounds as defined in 30 Texas Administrative Code Section |
| (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | 101 | .1 | | |
| emission rate. (5) The diesel generator is limited to 876 operating hours per year. * Emission rates are based on and the facilities are limited by the following maximum operating schedule: | | H_2SO_4 | - | sulfuric acid |
| * Emission rates are based on and the facilities are limited by the following maximum operating schedule: 24 Hrs/day 7 Days/week 52 Weeks/year | (4) | • | | · · · · · · · · · · · · · · · · · · · |
| schedule:24_ Hrs/day7_ Days/week52_ Weeks/year | (5) | The dies | el | generator is limited to 876 operating hours per year. |
| schedule:24_ Hrs/day7_ Days/week52_ Weeks/year | * | Fmission | n r | ates are based on and the facilities are limited by the following maximum operating |
| | | | | |
| ** Compliance with annual emission limits is based on a rolling 12-month period. | | 24 | Hr | s/day <u>7</u> Days/week <u>52</u> Weeks/year |
| | ** | Complia | nce | e with annual emission limits is based on a rolling 12-month period. |

Dated _____