Emission Sources - Maximum Allowable Emission Rates

Permit Number 31510

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) |
| ACLFUG | Acid Chloride Tank Farm Fugitives (5) | VOC | 0.36 | 1.56 |
| B1FUG | B-1 Fugitives (5) | VOC | 0.60 | 2.64 |
| B1ABAY1-2 | B-1 Alamo, Bays 1 & 2 Fugitives (5) | VOC | 0.18 | 0.79 |
| B1ABAY3 | B-1 Alamo, Bay 3 Fugitives (5) | VOC | 0.08 | 0.37 |
| B1ABAY4 | B-1 Alamo, Bay 4 Fugitives (5) | VOC | 0.07 | 0.31 |
| B1PKGE | B-1 Packaging East Vent | VOC | 0.24 | 0.01 |
| B1PKGW | B-1 Packaging West Vent | VOC | 0.24 | 0.01 |
| B1DMPKG | B-1 Drum Packaging Vent | VOC | 0.71 | 0.08 |
| B1WFUG | B-1 Weigh Area Fugitives (5) | VOC | 0.10 | 0.43 |
| | | $H_2O_2$ | 0.01 | 0.03 |
| B530 | Boiler (6.275 MMBtu/hr) | VOC | 0.03 | 0.15 |
| | | $NO_x$ | 0.62 | 2.69 |
| | | $SO_2$ | 0.01 | 0.02 |
| | | $PM_{10}$ | 0.05 | 0.20 |
| | | $PM_{2.5}$ | 0.05 | 0.20 |
| | | CO | 0.52 | 2.26 |
| C1 | C-1 Vent Scrubber | VOC | 0.44 | 0.05 |
| C330 | M-350 Tank Vent Scrubber | VOC | 0.03 | 0.01 |
| C851A | M-1 Process Vent Scrubber | VOC | 1.20 | 5.24 |
| CTFUG | Central Tank Farm Fugitives (5) | VOC | 0.10 | 0.43 |
| | | $H_2O_2$ | 0.05 | 0.21 |
| D203 | H2SO4/NaOH Mix Tank | $H_2SO_4$ | 0.01 | 0.01 |
| D700 | W-2 Blend Vessel | VOC | 0.41 | 0.02 |
| E201 | E201 B-1 Reactor Vent | VOC | 1.02 | 0.26 |

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| | | | | |
|---|---|---|---|---|
| | | $H_2SO_4$ | 0.01 | 0.01 |
| | | $H_2O_2$ | 0.01 | 0.01 |
| E202 | E202 B-1 Reactor Vent | VOC | 1.02 | 0.26 |
| | | $H_2SO_4$ | 0.01 | 0.01 |
| | | $H_2O_2$ | 0.01 | 0.01 |
| ETFUG | East Tank Farm Fugitives (5) | VOC | 0.29 | 1.27 |
| F1 | B-1 Flare | VOC | 11.85 | 4.36 |
| | | $NO_x$ | 0.49 | 0.49 |
| | | SO2 | 0.03 | 0.04 |
| | | CO | 8.73 | 4.24 |
| F103 | H2SO4 Weigh Tank | $H_2SO_4$ | 0.01 | 0.01 |
| F121A & F121B | Dilute Chilled NaOH Tanks | NaOH | 0.01 | 0.01 |
| F202 | H2SO4 Weigh Tank | $H_2SO_4$ | 0.01 | 0.01 |
| F203 | H2O2 Weigh Tank | $H_2O_2$ | 0.01 | 0.01 |
| F204 | TBA Weigh Tank | VOC | 2.83 | 0.06 |
| F206 | TXIB Weigh Tank | VOC | 0.01 | 0.01 |
| F207 | H2O2 Weigh Tank | $H_2O_2$ | 0.01 | 0.01 |
| F419 | Sodium Bicarbonate Tank | $NaHCO_3$ | 0.01 | 0.01 |
| F420 | F-420 Crude Product Storage Tank | VOC | 0.49 | 0.03 |
| F421 | F-421 Crude Product  Storage Tank | VOC | 0.49 | 0.03 |
| F422 | F-422 Crude Product Storage Tank | VOC | 0.01 | 0.01 |
| F423 | F-423 Crude Product  Storage Tank | VOC | 0.01 | 0.01 |
| I1002 | Incinerator | VOC | 0.20 | 0.29 |
| | | $NO_x$ | 0.35 | 0.51 |
| | | $SO_2$ | 0.16 | 0.23 |
| | | $PM_{10}$ | 0.45 | 0.66 |
| | | $PM_{2.5}$ | 0.45 | 0.66 |
| | | CO | 0.76 | 1.11 |
| M1FUG | M-1 Process Feed Fugitives (5) | VOC | 0.41 | 1.80 |

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| | | | | |
|---|---|---|---|---|
| | | $H_2O_2$ | 0.01 | 0.05 |
| M1M2PKG | M-1/M-2 Packaging Fugitives (5) | VOC | 0.15 | 0.66 |
| M1M2PKGA | M-1/M-2 Packaging Machine A | VOC | 0.16 | 0.22 |
| M1M2PKGB | M-1/M-2 Packaging Machine B | VOC | 0.20 | 0.22 |
| M2RFUG | M–2 Reactor Room Fugitives (5) | VOC | 0.73 | 3.20 |
| | | $H_2O_2$ | 0.02 | 0.07 |
| M2SFUG | M-2 Storage Area Fugitives (5) | VOC | 0.35 | 1.53 |
| Q8000 | M-2 Process Dryer Vent Scrubber | VOC | 1.20 | 5.24 |
| T1A | T1-A H2SO4 Tank | $H_2SO_4$ | 0.01 | 0.01 |
| T2 | T-2 Potassium Hydroxide Tank | KOH | 0.01 | 0.01 |
| T3 | T-3 TBA Tank | VOC | 9.53 | 0.28 |
| T5, T29 & T39 | Organic Hydroperoxide Tanks (6) | VOC | 1.06 | 0.59 |
| T6 | T-6 H2O2 Tank | $H_2O_2$ | 0.08 | 0.01 |
| T6A | T-6A H2O2 Tank | $H_2O_2$ | 0.06 | 0.01 |
| T7 | T-7 NaOH Tank | NaOH | 0.01 | 0.01 |
| T7A | T-7A NaOH Tank | NaOH | 0.01 | 0.01 |
| T10 | T-10 NaOH Tank | NaOH | 0.01 | 0.01 |
| T11 | T-11 H2O2 Tank | $H_2O_2$ | 0.05 | 0.01 |
| T23 | T-23 Base Oil Tank | VOC | 0.04 | 0.01 |
| T24 | T-24 DMP Tank | VOC | 0.01 | 0.01 |
| T25 | T-25 OMS Tank | VOC | 0.16 | 0.02 |
| T25A | T-25A OMS Tank | VOC | 0.60 | 0.02 |
| T30 | T-30 Isopar-H Tank | VOC | 0.82 | 0.02 |
| T41 | T-41 Diesel Tank | VOC | 0.02 | 0.01 |
| T42 | T-42 Diesel Tank | VOC | 0.03 | 0.01 |
| T43 | T-43 Diesel Tank | VOC | 0.02 | 0.01 |
| T45 | T-45 Diesel Tank | VOC | 0.08 | 0.01 |
| T80 | T-80 Wastewater Tank | VOC | 0.30 | 1.30 |
| T83 | T-83 Wastewater Tank | VOC | 0.30 | 1.30 |

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|---|---|---|---|---|
| T84 | T-84 Caustic Tank | NaOH | 0.01 | 0.01 |
| T85 | T-85 Wastewater Tank | VOC | 0.01 | 0.01 |
| T85A | T-85A Wastewater Tank | VOC | 0.01 | 0.01 |
| T130 | T-130 t-Amyl Hydroperoxide Tank | VOC | 0.06 | 0.02 |
| T150 | T-150 Santicizer 160 Tank | VOC | 0.01 | 0.01 |
| T301 | T-301 Still Feed Tank | VOC | 0.36 | 0.04 |
| T306 | T-306 TBHP Blending Tank | VOC | 0.16 | 0.01 |
| T311 | T-311 DTBP Wash Tank | VOC | 1.65 | 0.39 |
| T312 | T-312 DTBP Wash Tank | VOC | 1.65 | 0.39 |
| T525 | T-525 Brown Water Tank | VOC | 0.01 | 0.01 |
| T572 | T-572 Glycol Tank | VOC | 0.01 | 0.01 |
| T700A | T-700A B-1 Wastewater Tank | VOC | 0.64 | 2.82 |
| T702 | T-702 DTBP Wastewater Tank | VOC | 0.01 | 0.01 |
| T705 | T-705 Sodium Sulfate Tank | $Na_2SO_4$ | 0.01 | 0.01 |
| T925 | T-925 OMS Tank | VOC | 0.01 | 0.01 |
| T980 | T-980 M-1/M-2 Wastewater Tank | VOC | 0.01 | 0.01 |
| T5050 | T-5050 NaOH Tank | NaOH | 0.01 | 0.01 |
| T7050 | T-7050 Sodium Sulfate Tank | $Na_2SO_4$ | 0.01 | 0.01 |
| T7080 | T-7080 Sodium Sulfate Tank | $Na_2SO_4$ | 0.01 | 0.01 |
| T7500 | T-7500 Sodium Sulfate Tank | $Na_2SO_4$ | 0.01 | 0.01 |
| T8500 | T-8500 M-2 Product Tank | VOC | 0.01 | 0.02 |
| T9000 | T-9000 M-2 Product Tank | VOC | 0.01 | 0.02 |
| T9100 | T-9100 M-2 Product Tank | VOC | 0.01 | 0.02 |
| T9200 | T-9200 M-2 Product Tank | VOC | 0.01 | 0.02 |
| T9500 | T-9500 Glycol Tank | VOC | 0.01 | 0.01 |
| T9600 | T-9600 Glycol Tank | VOC | 0.01 | 0.01 |
| U541 | B-1 Cooling Tower | VOC | 0.01 | 0.01 |
| W2DRUM | W-2 Drumming Vent | VOC | 0.14 | 0.02 |
| W2FUG | W-2 Unit Fugitives (5) | VOC | 0.23 | 0.99 |

## Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| W930 | M1/M2 Cooling Tower | VOC | 0.01 | 0.01 |
| WTFUG | West Tank Farm Fugitives (5) | VOC | 0.12 | 0.54 |

(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
CO - carbon monoxide
$NO_x$ - total oxides of nitrogen
$SO_2$ - sulfur dioxide
$PM_{10}$ - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
$PM_{2.5}$ - particulate matter (PM) equal to or less than 2.5 microns in diameter.
$H_2O_2$ - hydrogen peroxide
$H_2SO_4$ - sulfuric acid
$NaHCO_3$ - sodium bicarbonate
NaOH - sodium hydroxide
$Na_2SO_4$ - sodium sulfate
KOH - potassium hydroxide
(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) Only one tank shall be filled at a time and the annual (tpy) emission is the total for all three tanks.

Date: December 29, 2016