

# EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 5546

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<br>Point No. (1)          | Source<br>Name (2)   | Air Contaminant<br>Name (3) | Emission Rates * |        |
|------------------------------------|--|-----------------------------|------------------|--------|
|                                    |  |                             | lb/hr            | TPY**  |
| 303M1239                           | Ethylene Flare (6)<br>(BuOH Unit Only)                               | CO                          | 189.34           | 23.40  |
|                                    |  | NO <sub>x</sub>             | 31.39            | 3.71   |
|                                    |  | SO <sub>2</sub>             | 0.75             | 0.13   |
|                                    |  | VOC                         | 218.10           | 26.40  |
| 303M1239                           | Ethylene Flare<br>(Start-Up, Shutdown, and<br>Maintenance Operation) | CO                          | 85.50            | 0.10   |
|                                    |  | NO <sub>x</sub>             | 16.80            | 0.01   |
|                                    |  | SO <sub>2</sub>             | 0.20             | 0.01   |
|                                    |  | VOC                         | 123.90           | 0.20   |
| 302M330,<br>302M331 and<br>302M460 | Boilers - Combined Emissions   | CO                          | 89.18            | 100.80 |
|                                    |  | VOC                         | 4.64             | 3.48   |
|                                    |  | PM <sub>10</sub>            | 3.39             | 6.48   |
|                                    |  | SO <sub>2</sub>             | 3.05             | 7.16   |
|                                    |  | NO <sub>x</sub>             | 14.97            | 39.97  |
| 100CAT                             | Catalyst Emissions   | VOC                         | 2.95             | 0.42   |
| 100GB                              | Guard Bed Regeneration   | SO <sub>2</sub>             | 13.40            | 0.32   |
| 100ANAL                            | Butanol Unit Building 1<br>Vent Analyzer                             | VOC                         | 1.26             | 5.53   |
|                                    |  | CO                          | 0.18             | 0.77   |
| 100GRPTK                           | Combined Emission Points<br>Tanks V30, V34, and V35                  | VOC                         | 64.94            | 2.93   |
| 251AV37                            | Tank V-37  | VOC                         | 0.67             | 0.40   |
| 100V984                            | Tank V-984   | VOC                         | 0.80             | 0.40   |

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

| Emission<br>Point No. (1) | Source<br>Name (2)         | Air Contaminant<br>Name (3) | Emission Rates * |       |
|---------------------------|----------------------------|-----------------------------|------------------|-------|
|                           |                            |                             | lb/hr            | TPY** |
| 100V865                   | Tank V-865                 | VOC                         | 0.74             | 0.82  |
| 251AV866                  | Tank V-866                 | VOC                         | 0.74             | 0.82  |
| 251AV994                  | Tank V-994                 | VOC                         | 1.11             | 0.70  |
| 251AV995                  | Tank V-995                 | VOC                         | 1.11             | 0.70  |
| 100V500                   | Tank V-500                 | VOC                         | 0.74             | 1.40  |
| 100V501                   | Tank V-501                 | VOC                         | 0.74             | 1.40  |
| 100V502                   | Tank V-502                 | VOC                         | 0.74             | 1.40  |
| 251AV38                   | Tank V-38                  | VOC                         | 1.01             | 2.10  |
| 100V1034                  | Tank V-1034                | VOC                         | 1.07             | 2.40  |
| 251AV829                  | Tank V-829                 | VOC                         | 1.04             | 2.16  |
| 100V23                    | Tank V-23                  | VOC                         | 0.25             | 0.05  |
| 100V917                   | Tank V-917                 | VOC                         | 0.01             | 0.05  |
| 251AV119                  | Tank V-119<br>(from T-104) | VOC                         | 4.80             | 0.18  |
| 100F                      | Fugitives (4)              | VOC                         | 7.40             | 32.50 |
|                           |                            | CO                          | 0.80             |       |
| 100V1263                  | Tank V-1263                | VOC                         | 0.33             | 0.57  |
| 108A                      | Propanol Unit Analyzers    | VOC                         | 0.20             | 0.70  |
|                           |                            | CO                          | 0.10             |       |
| 108A                      | Propanol Unit Analyzers    | CO                          | 0.02             | 0.11  |

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

| Emission<br>Point No. (1) | Source<br>Name (2) | Air Contaminant<br>Name (3) | Emission Rates * |       |
|---------------------------|--------------------|-----------------------------|------------------|-------|
|                           |                    |                             | lb/hr            | TPY** |
| 108C                      | Catalyst Emissions | VOC                         | 1.30             | 0.11  |
| 251AV36                   | Tank 36            | VOC                         | 1.32             | 0.90  |
| 251AV39                   | Tank 39            | VOC                         | 1.32             | 0.80  |
| 251AV94                   | Tank 94            | VOC                         | 1.32             | 0.90  |
| 251CV646                  | Tank 646           | VOC                         | 1.10             | 0.40  |
| 251CV984                  | Tank 984           | VOC                         | 1.10             | 0.40  |
| 108AV978                  | Tank 978           | VOC                         | 0.01             | 0.01  |
| 108F                      | Fugitives (4) (5)  | VOC                         | 5.11             | 22.36 |
|                           |                    | CO                          | 0.36             | 1.57  |
| 108F                      | Fugitives (4) (5)  | VOC                         | 0.12             | 0.24  |

(1) Emission point identification - either specific equipment designation or emission point number (EPN) 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

NO<sub>x</sub> - oxides of nitrogen

CO - carbon monoxide

PM<sub>10</sub> - 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.

CO - carbon monoxide

SO<sub>2</sub> - sulfur dioxide

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

(5) Fugitive emissions (EPNs 108F) are not authorized by Permit Number 5546. These emissions are being referenced only and are still authorized by Permit by Rule Number 71351, issued in April 2004.

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

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

Hrs/day 24 Days/week 7 Weeks/year 52 or Hrs/year \_\_\_\_\_

\*\* Compliance with annual emission limits is based on a rolling 12-month period.

Dated March 23, 2007