

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 78440

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.<br>(1) | Source Name (2)                          | Air Contaminant<br>Name (3) | Emission Rates |         |
|---------------------------|--|-----------------------------|----------------|---------|
|                           |  |                             | lbs/hour       | TPY (4) |
| S10                       | Regenerative Thermal Oxidizer and Dryers | PM                          | 4.74           | 20.78   |
|                           |  | PM <sub>10</sub>            | 4.74           | 20.78   |
|                           |  | PM <sub>2.5</sub>           | 4.74           | 20.78   |
|                           |  | SO <sub>2</sub>             | 16.80          | 60.00   |
|                           |  | NO <sub>x</sub>             | 9.40           | 41.18   |
|                           |  | VOC                         | 8.03           | 35.18   |
|                           |  | CO                          | 6.16           | 27.00   |
| S20                       | Unloading Baghouse                       | PM                          | 0.63           | 2.77    |
|                           |  | PM <sub>10</sub>            | 0.63           | 2.77    |
|                           |  | PM <sub>2.5</sub>           | 0.63           | 2.77    |
| S111                      | DDGS Baghouse                            | PM                          | 0.73           | 3.18    |
|                           |  | PM <sub>10</sub>            | 0.73           | 3.18    |
|                           |  | PM <sub>2.5</sub>           | 0.73           | 3.18    |
|                           |  | VOC                         | 1.95           | 8.54    |
| S112                      | Hammermill Baghouse                      | PM                          | 0.79           | 3.44    |
|                           |  | PM <sub>10</sub>            | 0.79           | 3.44    |
|                           |  | PM <sub>2.5</sub>           | 0.79           | 3.44    |
| S113                      | Hammermill Baghouse #2                   | PM                          | 0.77           | 3.38    |
|                           |  | PM <sub>10</sub>            | 0.77           | 3.38    |
|                           |  | PM <sub>2.5</sub>           | 0.77           | 3.38    |
| S40                       | Fermentation Scrubber                    | PM                          | 0.61           | 2.25    |
|                           |  | PM <sub>10</sub>            | 0.61           | 2.25    |
|                           |  | PM <sub>2.5</sub>           | 0.61           | 2.25    |
|                           |  | VOC                         | 16.99          | 74.38   |

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|       |   |                   |       |       |
|-------|---|-------------------|-------|-------|
| S50   | Ethanol Loadout Flare – Truck and railcar loading, Floating roof tank degassing | SO <sub>2</sub>   | 0.02  | 0.03  |
|       |   | NO <sub>x</sub>   | 1.73  | 3.37  |
|       |   | CO                | 6.84  | 13.37 |
|       | Ethanol Loadout Flare – Truck and railcar loading                               | VOC               | 10.86 | 7.90  |
|       | Ethanol Loadout Flare –Tank degassing   | VOC               | 32.45 | 0.06  |
| S80   | Cooling Tower   | PM                | 1.13  | 4.93  |
|       |   | PM <sub>10</sub>  | 0.57  | 2.47  |
|       |   | PM <sub>2.5</sub> | 0.01  | 0.01  |
| S100  | Emergency Fire Water Pump   | PM                | 0.06  | 0.01  |
|       |   | PM <sub>10</sub>  | 0.06  | 0.01  |
|       |   | PM <sub>2.5</sub> | 0.06  | 0.01  |
|       |   | SO <sub>2</sub>   | 0.39  | 0.06  |
|       |   | NO <sub>x</sub>   | 3.45  | 0.52  |
|       |   | VOC               | 0.09  | 0.01  |
|       |   | CO                | 0.18  | 0.03  |
| S110A | Boiler Stack 1  | PM                | 1.14  | 4.99  |
|       |   | PM <sub>10</sub>  | 1.14  | 4.99  |
|       |   | PM <sub>2.5</sub> | 1.14  | 4.99  |
|       |   | SO <sub>2</sub>   | 0.21  | 0.94  |
|       |   | NO <sub>x</sub>   | 3.00  | 9.86  |
|       |   | VOC               | 0.83  | 3.61  |
|       |   | CO                | 5.54  | 24.24 |

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|         |   |                   |      |       |
|---------|---|-------------------|------|-------|
| S110B   | Boiler Stack 2  | PM                | 1.14 | 4.99  |
|         |   | PM <sub>10</sub>  | 1.14 | 4.99  |
|         |   | PM <sub>2.5</sub> | 1.14 | 4.99  |
|         |   | SO <sub>2</sub>   | 0.21 | 0.94  |
|         |   | NO <sub>x</sub>   | 3.00 | 9.86  |
|         |   | VOC               | 0.83 | 3.61  |
|         |   | CO                | 5.54 | 24.24 |
| T1      | ≤200 Proof Storage Tank   | VOC               | 0.41 | 0.62  |
| T2      | ≤200 Proof Storage Tank   | VOC               | 0.39 | 0.59  |
| T3      | Denaturant Storage Tank   | VOC               | 0.42 | 0.98  |
| T4      | 200 Proof Storage Tank  | VOC               | 0.25 | 0.34  |
| T5      | 200 Proof Storage Tank  | VOC               | 0.25 | 0.34  |
| T7      | 200 Proof Storage Tank  | VOC               | 0.25 | 0.34  |
| T-OIL   | Oil Separation Tanks (EPNs T-OIL5 and T-OIL6)                             | VOC               | 0.25 | <0.01 |
| LD-OIL  | Oil Separation Loading Fugitives  | VOC               | 0.25 | 0.02  |
| PL-FUG  | Product Loading Fugitives   | VOC               | 4.19 | 7.91  |
| EQ-FUG  | Equipment Leak Fugitives (5)  | VOC               | 0.50 | 2.17  |
| GH-FUG  | Uncontrolled Grain Fugitives associated with unloading baghouse (EPN S20) | PM                | 0.93 | 1.27  |
|         |   | PM <sub>10</sub>  | 0.25 | 0.39  |
|         |   | PM <sub>2.5</sub> | 0.04 | 0.07  |
| WD-FUG  | Wetcake Fugitives   | VOC               | 0.98 | 4.31  |
| DG-FUG  | Uncontrolled DDGS Fugitives associated with DDGS handling (EPN S111)      | PM                | 0.06 | 0.11  |
|         |   | PM <sub>10</sub>  | 0.02 | 0.05  |
|         |   | PM <sub>2.5</sub> | 0.01 | 0.02  |
| PV-FUG1 | Cook Water Tank   | VOC               | 0.62 | 2.72  |
| PV-FUG2 | Methanator Feed Tank  | VOC               | 0.06 | 0.26  |
| PV-FUG3 | Thin Stillage Tank  | VOC               | 0.16 | 0.70  |
| PV-FUG4 | Syrup Tank  | VOC               | 0.92 | 4.02  |
| PV-FUG5 | Liquefaction Tanks  | VOC               | 0.09 | 0.38  |

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|  |                                 |     |       |      |
|--|---------------------------------|-----|-------|------|
| PV-FUG6  | Whole Stillage Tank             | VOC | 0.01  | 0.02 |
| PV-FUG7  | Liquefaction Tank 3             | VOC | 0.09  | 0.38 |
| <b><u>MAINTENANCE, STARTUP, AND SHUTDOWN (MSS) EMISSIONS</u></b> |                                 |     |       |      |
| MSS_EP   | Equipment Painting              | VOC | 3.62  | 0.02 |
| MSS_FERM   | Fermentation Equipment          | VOC | 6.72  | 0.14 |
| MSS_DIST   | Distillation Equipment          | VOC | 9.91  | 0.04 |
| MSS_TANK1  | Tank Farm Maintenance           | VOC | 8.28  | 0.04 |
| MSS_TANK2  | Tank Farm Degassing and Filling | VOC | 20.52 | 0.05 |
| MSS_LOAD   | Ethanol Loadout Operations      | VOC | 8.28  | 0.04 |
| MSS_40SD   | Fermentation Shutdown Emissions | VOC | 13.32 | 0.27 |
| MSS_OIL  | Oil Separation MSS              | VOC | 0.19  | 0.01 |

- (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  
NO<sub>x</sub> - total oxides of nitrogen  
SO<sub>2</sub> - sulfur dioxide  
PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented  
PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented  
PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter  
CO - carbon monoxide
- (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.

Date: TBD