

# EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 4005

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 ** |
| S1 and 2               | Plant 1 Scrubber System (Scrubber Nos. 1 and 2)          | VOC                      | 0.86                    | 0.04   |
|                        |  | Acetone                  | 0.79                    | 0.01   |
| 79S-2A, B, and C       | Plant 2 Scrubber/CAS System (Scrubbers 79S-2A, B, and C) | VOC                      | 0.18                    | 0.01   |
| S-7944                 | Scrubber S-7944  | VOC                      | 0.02                    | 0.01   |
| S-7951                 | Scrubber S-7951  | VOC                      | 0.05                    | 0.01   |
| S-7954                 | Scrubber S-7954  | Monochloroacetic acid    | 0.01                    | 0.01   |
| F-1                    | Flare F-1  | VOC                      | 1.67                    | 0.01   |
|                        |  | NO <sub>x</sub>          | 0.42                    | 0.26   |
|                        |  | CO                       | 0.79                    | 2.12   |
|                        |  | SO <sub>2</sub>          | 0.01                    | 0.01   |
| F-2                    | Flare F-2  | VOC                      | 6.92                    | 0.74   |
|                        |  | NO <sub>x</sub>          | 0.83                    | 0.66   |
|                        |  | CO                       | 1.57                    | 4.26   |
|                        |  | SO <sub>2</sub>          | 0.02                    | 0.11   |
| TO-1                   | Thermal Oxidizer TO-1                                    | VOC                      | 0.39                    | 0.15   |
|                        |  | Acetone                  | 0.04                    | 0.01   |
|                        |  | NO <sub>x</sub>          | 0.51                    | 2.24   |
|                        |  | CO                       | 0.43                    | 1.88   |
|                        |  | SO <sub>2</sub>          | 0.06                    | 0.27   |
|                        |  | PM <sub>10</sub>         | 0.04                    | 0.17   |

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|---------------------------|--|-----------------------------|------------------|--------|
|                           |  |                             | lb/hr            | TPY ** |
| B-1                       | Plant Boiler   | VOC                         | 0.06             | 0.02   |
|                           |  | NO <sub>x</sub>             | 0.59             | 1.75   |
|                           |  | CO                          | 0.99             | 0.63   |
|                           |  | SO <sub>2</sub>             | 0.24             | 0.98   |
|                           |  | PM <sub>10</sub>            | 0.10             | 0.41   |
| CWT                       | 3 Cooling Towers                                       | VOC                         | 0.34             | 1.47   |
|                           |  | PM/PM <sub>10</sub>         | 0.01             | 0.06   |
| LOAD                      | Truck Loading Losses                                   | VOC                         | 8.95             | 0.65   |
| FUG                       | Plant Fugitives (4)                                    | VOC                         | 1.81             | 7.92   |
| FWP                       | 2 Fire Water Pumps<br>(20 hours per year on each pump) | VOC                         | 1.33             | 0.01   |
|                           |  | NO <sub>x</sub>             | 16.43            | 0.16   |
|                           |  | CO                          | 3.54             | 0.04   |
|                           |  | SO <sub>2</sub>             | 1.09             | 0.01   |
|                           |  | PM <sub>10</sub>            | 1.17             | 0.01   |
| HOH                       | 4 Hot Oil Heaters                                      | VOC                         | 0.06             | 0.28   |
|                           |  | NO <sub>x</sub>             | 0.99             | 4.34   |
|                           |  | CO                          | 0.99             | 4.33   |
|                           |  | SO <sub>2</sub>             | 0.01             | 0.03   |
|                           |  | PM <sub>10</sub>            | 0.09             | 0.39   |
| T-4101                    | Tank 4101  | VOC                         | 1.24             | 0.24   |
| T-4106                    | Tank 4106  | VOC                         | 0.34             | 0.06   |
| T-4107                    | Tank 4107  | VOC                         | 2.00             | 0.01   |
| T-4119                    | Tank 4119  | VOC                         | 0.56             | 0.07   |
| T-4125                    | Tank 4125  | Spent Carbon                | 1.32             | 0.01   |
| T-4128                    | Tank 4128  | VOC                         | 0.17             | 0.14   |

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|---------------------------|--------------------|-----------------------------|------------------|--------|
|                           |                    |                             | lb/hr            | TPY ** |
| T-4129                    | Tank 4129          | Phosphorous acid            | 0.01             | 0.01   |
| T-4130                    | Tank 4130          | Phosphorous acid            | 0.01             | 0.01   |
| T-4131                    | Tank 4131          | Phosphorous acid            | 0.01             | 0.01   |
| T-4133                    | Tank 4133          | Polyphosphorous acid        | 0.05             | 0.01   |
| T-4134                    | Tank 4134          | VOC                         | 0.17             | 0.13   |
| T-4135                    | Tank 4135          | VOC                         | 0.17             | 0.09   |
| T-4137                    | Tank 4137          | VOC                         | 2.00             | 0.02   |
| T-4140                    | Tank 4140          | HCl                         | 0.10             | 0.01   |
| T-4141                    | Tank 4141          | Phosphorous acid            | 0.01             | 0.01   |
| T-4144                    | Tank 4144          | VOC                         | 0.86             | 0.11   |
| T-4145                    | Tank 4145          | VOC                         | 0.17             | 0.09   |
| T-7903                    | Tank 7903          | VOC                         | 0.17             | 0.06   |
| T-7904                    | Tank 7904          | VOC                         | 3.03             | 0.11   |
| T-7905                    | Tank 7905          | VOC                         | 1.23             | 0.03   |
| T-7906                    | Tank 7906          | VOC                         | 1.40             | 0.13   |
| T-7907                    | Tank 7907          | VOC                         | 1.40             | 0.13   |
| T-7908                    | Tank 7908          | VOC                         | 0.17             | 0.07   |
| T-7909                    | Tank 7909          | VOC                         | 0.06             | 0.09   |
| T-7910                    | Tank 7910          | VOC                         | 0.17             | 0.11   |

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|---------------------------|--------------------|-----------------------------|------------------|--------|
|                           |                    |                             | lb/hr            | TPY ** |
| T-7911                    | Tank 7911          | VOC                         | 0.17             | 0.10   |
| T-7912                    | Tank 7912          | Distillate Fuel No. 2       | 0.05             | 0.01   |
| T-7915                    | Tank 7915          | Distillate Fuel No. 2       | 0.05             | 0.01   |
| T-7920                    | Tank 7920          | VOC                         | 0.17             | 0.06   |
| T-7925                    | Tank 7925          | VOC                         | 0.02             | 0.09   |
| T-7929                    | Tank 7929          | VOC                         | 0.17             | 0.08   |
| T-7930                    | Tank 7930          | VOC                         | 0.17             | 0.12   |
| T-7934                    | Tank 7934          | VOC                         | 0.14             | 0.15   |
| T-7935                    | Tank 7935          | VOC                         | 0.18             | 0.19   |
| T-7936                    | Tank 7936          | VOC                         | 0.31             | 0.12   |
| T-7938                    | Tank 7938          | VOC                         | 0.17             | 0.11   |
| T-7939                    | Tank 7939          | Distillate Fuel No. 2       | 0.05             | 0.01   |
| T-7941                    | Tank 7941          | VOC                         | 0.31             | 0.01   |
| T-7945                    | Tank 7945          | KOH                         | 0.01             | 0.01   |
| T-7947                    | Tank 7947          | VOC                         | 0.01             | 0.04   |
| T-7948                    | Tank 7948          | VOC                         | 0.17             | 0.15   |
| T-7949                    | Tank 7949          | VOC                         | 0.17             | 0.10   |
| T-7950                    | Tank 7950          | VOC                         | 0.17             | 0.16   |
| T-7953                    | Tank 7953          | VOC                         | 1.23             | 0.03   |

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|---------------------------|--------------------|-----------------------------|------------------|--------|
|                           |                    |                             | lb/hr            | TPY ** |
| T-7955                    | Tank 7955          | VOC                         | 0.17             | 0.18   |
| T-7956                    | Tank 7956          | VOC                         | 0.17             | 0.14   |
| T-7957                    | Tank 7957          | VOC                         | 0.17             | 0.15   |
| T-7958                    | Tank 7958          | VOC                         | 0.17             | 0.15   |
| T-7959                    | Tank 7959          | VOC                         | 0.17             | 0.15   |
| T-7960                    | Tank 7960          | VOC                         | 0.19             | 0.30   |
| T-7961                    | Tank 7961          | Methanol                    | 16.40            | 0.74   |
| T-7962                    | Tank 7962          | Isopropanol                 | 12.89            | 0.22   |
| T-7963                    | Tank 7963          | VOC                         | 0.17             | 0.03   |
| T-7964                    | Tank 7964          | VOC                         | 0.17             | 0.25   |
| T-7965                    | Tank 7965          | VOC                         | 0.17             | 0.09   |
| T-7967                    | Tank 7967          | VOC                         | 0.17             | 0.13   |
| T-7968                    | Tank 7968          | VOC                         | 0.84             | 0.12   |
| T-7971                    | Tank 7971          | Potassium Borate            | 0.05             | 0.01   |
| T-7972                    | Tank 7972          | VOC                         | 0.17             | 0.17   |
| T-7975                    | Tank 7975          | VOC                         | 1.93             | 0.02   |
| T-7976                    | Tank 7976          | VOC                         | 0.17             | 0.28   |
| T-7977                    | Tank 7977          | VOC                         | 0.17             | 0.21   |
| T-7978                    | Tank 7978          | VOC                         | 0.13             | 0.38   |

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|---------------------------|--------------------|-----------------------------|------------------|--------|
|                           |                    |                             | lb/hr            | TPY ** |
| T-7981                    | Tank 7981          | Toluene                     | 0.03             | 0.14   |
| T-7982                    | Tank 7982          | VOC                         | 0.17             | 0.37   |
| T-7983                    | Tank 7983          | VOC                         | 0.17             | 0.13   |
| T-7984                    | Tank 7984          | VOC                         | 0.17             | 0.28   |
| T-7985                    | Tank 7985          | VOC                         | 0.17             | 0.35   |
| T-7987                    | Tank 7987          | Caustic Soda                | 0.01             | 0.01   |
| ACCUTANK                  | Accumulator Tank   | VOC                         | 0.25             | 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

CO - carbon monoxide

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

PM - particulate matter

PM<sub>10</sub> - particulate matter equal to or less than 10 microns in diameter

HCl - hydrogen chloride

KOH - potassium hydroxide

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- (4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
- (5) Fuel gas for the combustion devices and assist/pilot gas for the flares authorized by this permit includes landfill gas as represented in the permit amendment application. Pipeline quality, sweet natural gas is also authorized.

\* 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

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

Dated: August 16, 2010