Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 19201 and PSDTX1232

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) |
| 2-HDPE | Downstream Pellet Handling | VOC | 4.96 | 21.73 |
| 3-HDPE | Downstream Pellet Handling | VOC | 3.41 | 13.61 |
| 3T501 | 3T-501 Hexane Tank | VOC | 0.29 | 0.72 |
| 3T502 | 3T-502 Hexane Tank | VOC | 0.35 | 0.72 |
| 3T503 | 3T-503 Hexane Tank | VOC | 0.35 | 0.72 |
| 5T6010 | Tank T-501 | VOC | 0.56 | 0.53 |
| 5T6020 | Tank T-502 | VOC | 0.56 | 0.53 |
| 5T6030 | Tank 2T-502 | VOC | 0.56 | 0.53 |
| 5T6040 | Tank T-503 | VOC | 0.56 | 0.53 |
| 5T6050 | Tank 2T-503 | VOC | 0.56 | 0.53 |
| D301 | HDPE Train A Dryer Vent (11) | VOC | 44.00 | 11.80 |
| 2D-301 | HDPE Train B Dryer Vent (11) | VOC | 44.00 | 11.80 |
| 3D-301 | HDPE Train C Dryer Vent (11) | VOC | 44.00 | 11.80 |
| F-302 | Powder Silo Bag Filter | $PM_{10}$ | 0.10 | 0.42 |
| 2F-302 | Powder Silo Bag Filter | $PM_{10}$ | 0.10 | 0.42 |
| 3F-302 | Powder Silo Bag Filter | $PM_{10}$ | 0.16 | 0.62 |
| F401 | Powder Feed Hopper Bag Filter | $PM_{10}$ | 0.01 | 0.01 |

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| | | | | |
|---|---|---|---|---|
| 2F401 | Powder Feed Hopper Bag Filter | $PM_{10}$ | 0.01 | 0.01 |
| 3F401 | Powder Feed Hopper Bag Filter | $PM_{10}$ | 0.01 | 0.01 |
| F408 | Powder Feed Hopper Bag Filter | $PM_{10}$ | 0.01 | 0.01 |
| 2F408 | Powder Feed Hopper Bag Filter | $PM_{10}$ | 0.01 | 0.01 |
| 3F408 | Powder Feed Hopper Bag Filter | $PM_{10}$ | 0.01 | 0.01 |
| 3F708A | Elutriate Bag Filter (8) | $PM_{10}$ | 1.34 | 4.35 |
| F-701 | Blend Silo Bag Filter | $PM_{10}$ | 0.09 | 0.37 |
| 2F-701 | Blend Silo Bag Filter | $PM_{10}$ | 0.09 | 0.37 |
| 3F-701A | Blending Silo Bag Filter | $PM_{10}$ | 0.35 | 1.55 |
| 3F-701B | Blending Silo Bag Filter | $PM_{10}$ | 0.35 | 1.55 |
| F-708A | Hopper Car Bag Filter F-708A | $PM_{10}$ | 0.05 | 0.21 |
| F-708B | Hopper Car Bag Filter F-708B | $PM_{10}$ | 0.05 | 0.21 |
| S-705 | Packer Silo Cyclone Separator | $PM_{10}$ | 0.06 | 0.28 |
| 2S-705 | Packer Silo Cyclone Separator | $PM_{10}$ | 0.06 | 0.28 |
| S-707 | Packer Silo Cyclone Separator | $PM_{10}$ | 0.06 | 0.28 |
| 2S-707 | Packer Silo Cyclone Separator | $PM_{10}$ | 0.06 | 0.28 |
| S-708A | Hopper Silo Cyclone Separator | $PM_{10}$ | 0.06 | 0.28 |
| S-708B | Hopper Silo Cyclone Separator | $PM_{10}$ | 0.06 | 0.28 |
| S-709A | Product Silos Cyclone Separator S-709A | $PM_{10}$ | 0.06 | 0.28 |
| S-709B | Product Silos Cyclone Separator | $PM_{10}$ | 0.06 | 0.28 |

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| | | | | |
|---|---|---|---|---|
| | S-709B | | | |
| S405 | Recycle Pellet Cyclone (9) | $PM_{10}$ | 0.27 | 0.10 |
| 2S405 | Recycle Pellet Cyclone (9) | $PM_{10}$ | 0.27 | 0.10 |
| 3S405 | Recycle Pellet Cyclone (9) | $PM_{10}$ | 0.27 | 0.10 |
| V102 | Catalyst Dip Pot (10) | VOC | 0.53 | 0.03 |
| Z405 | Additive Dust Collector | $PM_{10}$ | 0.02 | 0.08 |
| 2Z405 | Additive Dust Collector | $PM_{10}$ | 0.02 | 0.08 |
| Z410 | Powder Vacuum Cleaner (9) | $PM_{10}$ | 0.01 | 0.01 |
| PO-CT | Cooling Tower | VOC | 1.32 | 5.79 |
| PP2-CT | Cooling Tower | VOC | 1.32 | 5.79 |
| H923A | Thermal Incinerator (6) | CO | 15.42 | - |
| | | CO MSS | 75.00 | 18.70 |
| | | $NO_x$ MSS | - | 1.00 |
| | | $NO_x$ | 8.64 | - |
| | | $PM_{10}$ | 0.76 | - |
| | | $SO_2$ | 0.05 | - |
| | | $SO_2$ MSS (12) | 0.10 | 0.10 |
| | | VOC | 1.88 | - |
| | | VOC MSS (12) | - | 0.20 |

Emission Sources - Maximum Allowable Emission Rates

| | | | | |
|---|---|---|---|---|
| H923B | Thermal Incinerator (6) | CO | 15.42 | - |
| | | CO MSS | 75.00 | 18.70 |
| | | $NO_x$ | 8.64 | - |
| | | $NO_x$ MSS | - | 1.00 |
| | | $PM_{10}$ | 0.76 | - |
| | | $SO_2$ | 0.05 | - |
| | | $SO_2$ MSS (12) | 0.10 | 0.10 |
| | | VOC | 1.88 | - |
| | | VOC MSS (12) | - | 0.20 |
| H923A/H923B | Thermal Incinerators (Combined Annual Emissions from Incinerators H923A and H923B) | CO | - | 55.74 |
| | | $NO_x$ | - | 31.23 |
| | | $PM_{10}$ | - | 2.75 |
| | | $SO_2$ | - | 0.17 |
| | | VOC | - | 6.80 |
| 2F-302B | Powder Silo Bag Filter | $PM_{10}$ | 0.10 | 0.44 |
| 3F-302B | Powder Silo Bag Filter | $PM_{10}$ | 0.16 | 0.21 |
| 3F-708B | Railcar Bag Filter (8) | $PM_{10}$ | 0.52 | 1.60 |
| 3V305 | Seal Dip Pot (10) | VOC | 0.01 | 0.01 |
| 1018 | Olefins I Elevated Flare (7) | CO | 10.70 | - |
| | | CO MSS | 65.30 | 9.90 |
| | | $NO_x$ | 2.10 | - |
| | | $NO_x$ MSS | 9.00 | 1.50 |
| | | $SO_2$ | 0.01 | - |
| | | VOC | 13.12 | - |

Emission Sources - Maximum Allowable Emission Rates

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|---|---|---|---|---|
| | | VOC MSS | 243.20 | 16.70 |
| 1067 | Olefins II Elevated Flare (7) | CO | 10.70 | - |
| | | CO MSS | 65.30 | 9.90 |
| | | $NO_x$ | 2.10 | - |
| | | $NO_x$ MSS | 9.00 | 1.50 |
| | | $SO_2$ | 0.01 | - |
| | | VOC | 13.12 | - |
| | | VOC MSS | 243.20 | 16.70 |
| Annual Emission Cap (7) | | CO | - | 14.06 |
| | | $NO_x$ | - | 2.76 |
| | | $SO_2$ | - | 0.01 |
| | | VOC | - | 34.48 |
| PE-FUG | Plant Process Fugitives (5) | $PM_{10}$ | 0.06 | 0.27 |
| | | VOC | 25.31 | 110.87 |
| **Maintenance, Startup, And Shutdown (MSS)** | | | | |
| D301<br>2D-301<br>3D-301 | Dryer Vent MSS Activities | VOC | 132.00 | 37.50 |
| PE-MSS | MSS to Atmosphere | VOC | 80.60 | 2.50 |
| | | PM | 0.20 | 0.30 |

(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
$NO_x$ - total oxides of nitrogen
$SO_2$ - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including $PM_{10}$ and $PM_{2.5}$, as represented
CO - carbon monoxide
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.

Emission Sources - Maximum Allowable Emission Rates

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) The emissions from the incinerator stacks are the total emissions related to disposal of waste gases from the high density polyethylene, linear low density polyethylene and polypropylene plants.

(7) The emissions contributed only from this permitted facility which is the HDPE I unit. The vents from the HDPE I unit to the Olefins I Elevated Flare (EPN 1018) and the Olefins II Elevated Flare (EPN 1067) are limited to the following scenarios:

A. All vents from the HDPE I unit can vent to EPN 1018 with no vents from the HDPE I unit venting at the same time to EPN 1067 for 5,256 hours per year.

B. All vents from the HDPE I unit can vent to EPN 1067 with no vents from the HDPE I unit venting at the same time to EPN 1018 for 5,256 hours per year.

(8) 7,500 hours per year of operation

(9) 730 hours per year of operation

(10) 100 hours per year of operation

(11) The combined total annual emissions from EPNs D301, 2D-301, and 3D-301 shall not exceed 11.8 tons per year.

(12) Total VOC emissions from EPNs 1018, 1067, H923A, and H923B shall not exceed 66 lb/hr during planned MSS events. Total $SO_2$ emissions from EPNs H923A and H923B shall not exceed 0.1 lb.hr during planned MSS events.

Date: November 30, 2012