## Emission Sources - Maximum Allowable Emission Rates

## Permit Number 34957

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

| <b>Emission Point No. (1)</b> | Source Name (2)  | Air Contaminant Name (3) | Emission Rates (5) |         |
|-------------------------------|--|--------------------------|--------------------|---------|
|                               |  |                          | lbs/hour           | TPY (4) |
| ASMS                          | Reactors A1 through A9   | IOC-U                    | 0.08               | 0.36    |
|                               |  | РМ                       | <0.01              | 0.01    |
|                               |  | PM <sub>10</sub>         | <0.01              | 0.01    |
|                               |  | PM <sub>2.5</sub>        | <0.01              | 0.01    |
| LPES1                         | Reactors L1a, L1b,<br>L2a, and L2b   | IOC-U                    | 0.07               | 0.30    |
|                               | Lza, and Lzb   | РМ                       | <0.01              | <0.01   |
|                               |  | PM <sub>10</sub>         | <0.01              | <0.01   |
|                               |  | PM <sub>2.5</sub>        | <0.01              | <0.01   |
| LPES2                         | Reactors L10a, L10b,<br>L11a, L11b, L12a,  | IOC-U                    | 0.17               | 0.75    |
|                               | L12b, L13a, L13b,  | РМ                       | <0.01              | 0.01    |
|                               | L14a, and L14b   | PM <sub>10</sub>         | <0.01              | 0.01    |
|                               |  | PM <sub>2.5</sub>        | <0.01              | 0.01    |
| S-1                           | Reactors L3, L4a, L4b,<br>L5, L6, L7, L8, and<br>L9<br>Piping Components<br>and Chemical<br>Storage Cabinets | IOC-U                    | <0.01              | 0.01    |
|                               |  | РМ                       | <0.01              | <0.01   |
|                               |  | PM <sub>10</sub>         | <0.01              | <0.01   |
|                               |  | PM <sub>2.5</sub>        | <0.01              | <0.01   |
| S-2                           | Polyflow/Quartzware<br>Cleaner Unit/<br>Passivation Unit/<br>SPEC1 Unit                                      | IOC-U                    | 0.07               | 0.01    |
| S-3                           | Reactor Piping Manifolds, Dopant Storage Cabinets, TCS Storage Cabinet                                       | IOC-U                    | <0.01              | 0.01    |
|                               |  | РМ                       | <0.01              | <0.01   |
|                               |  | PM <sub>10</sub>         | <0.01              | <0.01   |
|                               |  | PM <sub>2.5</sub>        | <0.01              | <0.01   |

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| S-4                 | HCl and TCS Trailer<br>Changeouts           | IOC-U             | <0.01 | <0.01 |
|---------------------|---|-------------------|-------|-------|
|                     |   | РМ                | <0.01 | <0.01 |
|                     |   | PM <sub>10</sub>  | <0.01 | <0.01 |
|                     |   | PM <sub>2.5</sub> | <0.01 | <0.01 |
| V-100               | TCS and Dopant Line<br>Purges               | IOC-U             | <0.01 | <0.01 |
|                     | i uiges                                     | РМ                | <0.01 | <0.01 |
|                     |   | PM <sub>10</sub>  | <0.01 | <0.01 |
|                     |   | PM <sub>2.5</sub> | <0.01 | <0.01 |
| FUG-1               | Wastewater                                  | IOC-U             | 0.02  | 0.07  |
| BLDGFUG             | Building Fugitives from Cleaning Activities | voc               | 0.10  | 0.04  |
|                     | Cleaning Activities                         | Exempt Solvent    | 0.03  | 0.02  |
| TR-1/TR-2/TR-3/TR-4 | Trane HVACs                                 | voc               | 0.01  | 0.03  |
|                     |   | SO <sub>2</sub>   | <0.01 | <0.01 |
|                     |   | NO <sub>X</sub>   | 0.1   | 0.44  |
|                     |   | со                | 0.02  | 0.09  |
|                     |   | РМ                | 0.01  | 0.05  |
|                     |   | PM <sub>10</sub>  | 0.01  | 0.05  |
|                     |   | PM <sub>2.5</sub> | 0.01  | 0.05  |
| B-1                 | Boiler                                      | voc               | 0.01  | 0.04  |
|                     |   | SO <sub>2</sub>   | <0.01 | <0.01 |
|                     |   | NO <sub>X</sub>   | 0.15  | 0.64  |
|                     |   | со                | 0.12  | 0.54  |
|                     |   | РМ                | 0.01  | 0.05  |
|                     |   | PM <sub>10</sub>  | 0.01  | 0.05  |
|                     |   | PM <sub>2.5</sub> | 0.01  | 0.05  |

| DG-1 | Diesel Generator | voc             | 1.19 | 0.06 |
|------|------------------|-----------------|------|------|
|      |                  | SO <sub>2</sub> | 0.97 | 0.05 |

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| NO <sub>X</sub>   | 14.69 | 0.74 |
|-------------------|-------|------|
| СО                | 3.17  | 0.16 |
| РМ                | 1.04  | 0.05 |
| PM <sub>10</sub>  | 1.04  | 0.05 |
| PM <sub>2.5</sub> | 1.04  | 0.05 |

- (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) Exempt Solvent Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound.
  - VOC volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

IOC-U - inorganic compounds (unspeciated)

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) The allowable emission rates include planned maintenance, startup, and shutdown activities.

|  | Date: | March 8, 2019 |
|--|-------|---------------|
|--|-------|---------------|