

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 3855B

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) |
| F-P01                  | VCM Production Fugitives (5)                               | EDC (VOC)                | 0.13           | 0.55    |
|                        |  | VCM (VOC)                | 0.01           | 0.06    |
|                        |  | VOC – Total              | 0.14           | 0.61    |
|                        |  | HCl                      | 0.03           | 0.12    |
| F-P02                  | Cracking and Purification Fugitives (5)                    | EDC (VOC)                | 0.97           | 4.26    |
|                        |  | VCM (VOC)                | 0.09           | 0.41    |
|                        |  | Ethylene (VOC)           | 0.77           | 3.39    |
|                        |  | Propylene (VOC)          | 0.36           | 1.58    |
|                        |  | Other VOC                | < 0.01         | 0.03    |
|                        |  | VOC – Total              | 2.20           | 9.67    |
|                        |  | HCl                      | < 0.01         | 0.02    |
| F-P03                  | Ethylene Battery Limits (5)<br>(for non-chlorine portions) | EDC (VOC)                | 0.01           | 0.03    |
|                        |  | VCM (VOC)                | 0.07           | 0.29    |
|                        |  | Ethylene (VOC)           | 0.19           | 0.83    |
|                        |  | Other VOC                | < 0.01         | 0.01    |
|                        |  | VOC – Total              | 0.28           | 1.16    |
|                        |  | Cl <sub>2</sub>          | 0.06           | 0.25    |
| F-P05                  | Wastewater Fugitives (5)                                   | EDC (VOC)                | 0.04           | 0.16    |
|                        |  | Other VOC                | 0.04           | 0.17    |
|                        |  | VOC – Total              | 0.08           | 0.33    |
| F-P06                  | EDC Process Fugitives (5)                                  | EDC (VOC)                | 0.98           | 4.27    |
|                        |  | VCM (VOC)                | 0.02           | 0.11    |
|                        |  | Ethylene (VOC)           | 0.01           | 0.04    |
|                        |  | Other VOC                | 0.01           | 0.06    |
|                        |  | VOC – Total              | 1.02           | 4.48    |
|                        |  | Cl <sub>2</sub>          | < 0.01         | 0.01    |

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|--------|--|-------------------|--------|-------|
| F-P07  | Cat Oxygen Process Fugitives (5)                   | EDC (VOC)         | 0.21   | 0.90  |
|        |  | Ethylene (VOC)    | 0.46   | 2.02  |
|        |  | Other VOC         | 0.07   | 0.30  |
|        |  | VOC – Total       | 0.74   | 3.22  |
|        |  | HCl               | 0.08   | 0.34  |
| F-P08  | VCM Tank Farm Fugitives (5)                        | EDC (VOC)         | < 0.01 | 0.02  |
|        |  | VCM (VOC)         | 0.26   | 1.15  |
|        |  | VOC – Total       | 0.27   | 1.17  |
| F-P09  | Vent System Fugitives (5)                          | VOC               | 0.55   | 2.39  |
| F-P10  | North Purification Fugitives (5)                   | EDC (VOC)         | 0.10   | 0.46  |
|        |  | VCM (VOC)         | 0.14   | 0.62  |
|        |  | Propylene (VOC)   | 0.12   | 0.53  |
|        |  | VOC – Total       | 0.36   | 1.61  |
|        |  | HCl               | 0.05   | 0.24  |
| F-P11  | "C" Oxy-Chlorination Reactor Process Fugitives (5) | EDC (VOC)         | 0.11   | 0.49  |
|        |  | Ethylene (VOC)    | 0.24   | 1.05  |
|        |  | Propylene (VOC)   | < 0.01 | 0.02  |
|        |  | VOC – Total       | 0.36   | 1.56  |
|        |  | HCl               | 0.02   | 0.08  |
| F-P13D | "D" Oxy-Chlorination Reactor Process Fugitives (5) | EDC (VOC)         | 0.11   | 0.49  |
|        |  | Ethylene (VOC)    | 0.24   | 1.05  |
|        |  | Propylene (VOC)   | < 0.01 | 0.02  |
|        |  | VOC – Total       | 0.36   | 1.56  |
|        |  | HCl               | 0.02   | 0.08  |
| IND103 | Cracking Furnace 103 (95 MMBtu/hr)                 | NO <sub>x</sub>   | 3.33   | 11.50 |
|        |  | CO                | 1.71   | 5.91  |
|        |  | VOC               | 0.51   | 1.76  |
|        |  | PM                | 0.71   | 2.45  |
|        |  | PM <sub>10</sub>  | 0.71   | 2.45  |
|        |  | PM <sub>2.5</sub> | 0.71   | 2.45  |
|        |  | SO <sub>2</sub>   | 0.06   | 0.22  |

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|        |                                    |                     |       |       |
|--------|------------------------------------|---------------------|-------|-------|
| IND104 | Cracking Furnace 104 (95 MMBtu/hr) | NO <sub>x</sub> (7) | 15.11 | 47.30 |
|        |                                    | NO <sub>x</sub> (8) | 3.33  | 11.50 |
|        |                                    | CO (7)              | 1.24  | 3.90  |
|        |                                    | CO (8)              | 3.47  | 11.99 |
|        |                                    | VOC                 | 0.51  | 1.76  |
|        |                                    | PM                  | 0.71  | 2.45  |
|        |                                    | PM <sub>10</sub>    | 0.71  | 2.45  |
|        |                                    | PM <sub>2.5</sub>   | 0.71  | 2.45  |
|        |                                    | SO <sub>2</sub> (7) | 0.06  | 0.22  |
|        |                                    | SO <sub>2</sub> (8) | 0.06  | 0.19  |
| IND105 | Cracking Furnace 105 (95 MMBtu/hr) | NO <sub>x</sub>     | 15.11 | 47.30 |
|        |                                    | CO                  | 1.24  | 3.90  |
|        |                                    | VOC                 | 0.51  | 1.76  |
|        |                                    | PM                  | 0.71  | 2.45  |
|        |                                    | PM <sub>10</sub>    | 0.71  | 2.45  |
|        |                                    | PM <sub>2.5</sub>   | 0.71  | 2.45  |
|        |                                    | SO <sub>2</sub>     | 0.06  | 0.22  |
| IND106 | Cracking Furnace 106 (95 MMBtu/hr) | NO <sub>x</sub>     | 15.11 | 47.30 |
|        |                                    | CO                  | 1.24  | 3.90  |
|        |                                    | VOC                 | 0.51  | 1.76  |
|        |                                    | PM                  | 0.71  | 2.45  |
|        |                                    | PM <sub>10</sub>    | 0.71  | 2.45  |
|        |                                    | PM <sub>2.5</sub>   | 0.71  | 2.45  |
|        |                                    | SO <sub>2</sub>     | 0.06  | 0.22  |
| IND107 | Cracking Furnace 107 (95 MMBtu/hr) | NO <sub>x</sub>     | 5.32  | 17.50 |
|        |                                    | CO                  | 1.33  | 3.90  |
|        |                                    | VOC                 | 0.51  | 1.70  |
|        |                                    | PM                  | 0.71  | 2.35  |
|        |                                    | PM <sub>10</sub>    | 0.71  | 2.35  |
|        |                                    | PM <sub>2.5</sub>   | 0.71  | 2.35  |
|        |                                    | SO <sub>2</sub>     | 0.06  | 0.21  |

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|         |                                    |                   |       |       |
|---------|------------------------------------|-------------------|-------|-------|
| IND108  | Cracking Furnace 108 (95 MMBtu/hr) | NO <sub>x</sub>   | 5.32  | 17.50 |
|         |                                    | CO                | 1.33  | 3.90  |
|         |                                    | VOC               | 0.51  | 1.70  |
|         |                                    | PM                | 0.71  | 2.35  |
|         |                                    | PM <sub>10</sub>  | 0.71  | 2.35  |
|         |                                    | PM <sub>2.5</sub> | 0.71  | 2.35  |
|         |                                    | SO <sub>2</sub>   | 0.06  | 0.21  |
| IND101A | Incinerator A Scrubber             | NO <sub>x</sub>   | 9.00  | 25.00 |
|         |                                    | CO                | 2.20  | 9.43  |
|         |                                    | CO (6)            | 50.00 | -     |
|         |                                    | VCM (VOC)         | 0.06  | 0.22  |
|         |                                    | VOC – Total       | 2.40  | 8.77  |
|         |                                    | PM                | 2.40  | 8.65  |
|         |                                    | PM <sub>10</sub>  | 2.40  | 8.65  |
|         |                                    | PM <sub>2.5</sub> | 2.40  | 8.65  |
|         |                                    | SO <sub>2</sub>   | 0.10  | 0.40  |
|         |                                    | HCl               | 2.52  | 8.80  |
|         |                                    | Cl <sub>2</sub>   | 4.85  | 17.49 |
|         |                                    | HBr               | 0.02  | 0.09  |
| IND101B | Incinerator B Scrubber             | NO <sub>x</sub>   | 9.00  | 25.00 |
|         |                                    | CO                | 2.20  | 9.43  |
|         |                                    | CO (6)            | 50.00 | -     |
|         |                                    | VCM (VOC)         | 0.06  | 0.22  |
|         |                                    | VOC - Total       | 2.40  | 8.77  |
|         |                                    | PM                | 2.40  | 8.65  |
|         |                                    | PM <sub>10</sub>  | 2.40  | 8.65  |
|         |                                    | PM <sub>2.5</sub> | 2.40  | 8.65  |
|         |                                    | SO <sub>2</sub>   | 0.10  | 0.40  |
|         |                                    | HCl               | 2.52  | 8.80  |
|         |                                    | Cl <sub>2</sub>   | 4.85  | 17.49 |
|         |                                    | HBr               | 0.02  | 0.09  |

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|            |                                   |                         |       |      |
|------------|-----------------------------------|-------------------------|-------|------|
| CYC-1      | Decoking Cyclone                  | CO                      | 2.04  | 0.88 |
|            |                                   | VOC                     | 2.17  | 0.94 |
|            |                                   | PM                      | 0.39  | 0.17 |
|            |                                   | PM <sub>10</sub>        | 0.39  | 0.17 |
|            |                                   | PM <sub>2.5</sub>       | 0.39  | 0.17 |
|            |                                   | HCl                     | 0.80  | 0.35 |
| EEDC-SUMP  | East EDC Tank Farm Sump           | EDC (VOC)               | 0.01  | -    |
| EDCTF-SUMP | West EDC Tank Farm Sump           | EDC (VOC)               | 0.01  | -    |
| IM-SUMP    | Intermediate Sump                 | EDC (VOC)               | 0.01  | -    |
| LTC-SUMP   | LCT Sump                          | EDC (VOC)               | 0.01  | -    |
| NO1-SUMP   | No. 1 Sump                        | EDC (VOC)               | 0.01  | -    |
| NO2-SUMP   | No. 2 Sump                        | EDC (VOC)               | 0.01  | -    |
| COXY-SUMP  | C-Oxy Sump                        | EDC (VOC)               | 0.01  | -    |
| HYDRO-SUMP | Hydroblast Pad Sump               | EDC (VOC)               | 0.01  | -    |
| SUMP-GROUP | Sump Group                        | VOC – Total             | -     | 0.08 |
| HYDRO-WEIR | Hydroblast Pad Weir               | EDC (VOC)               | 0.60  | 0.62 |
|            |                                   | VCM (VOC)               | 0.30  | 0.31 |
|            |                                   | VOC – Total             | 0.90  | 0.93 |
| WW-1       | Wastewater Treatment              | EDC (VOC)               | 0.39  | 1.19 |
|            |                                   | CHCl <sub>3</sub> (VOC) | 0.80  | 2.46 |
|            |                                   | VOC – Total             | 1.19  | 3.65 |
| FB-6473    | LOPS Tank                         | VOC                     | 0.15  | 0.01 |
| GT-1       | Gasoline Storage Tank             | VOC                     | 34.69 | 0.83 |
| DT-1-FWP   | Diesel Storage Tank               | Diesel (VOC)            | 0.02  | -    |
| DT-2-FWP   | Diesel Storage Tank               | Diesel (VOC)            | 0.02  | -    |
| DT-3-FWP   | Diesel Storage Tank               | Diesel (VOC)            | 0.02  | -    |
| DT-4-FWP   | Diesel Storage Tank               | Diesel (VOC)            | 0.02  | -    |
| DT-5-FWP   | Diesel Storage Tank               | Diesel (VOC)            | 0.02  | -    |
| DT-6-UTIL  | Diesel Storage Tank               | Diesel (VOC)            | 0.23  | -    |
| DT-7-EG    | Diesel Storage Tank               | Diesel (VOC)            | 0.03  | -    |
| DT-Group   | Diesel Storage Tanks              | VOC – Total             | -     | 0.01 |
| FA-4605    | 10 percent Hydrochloric Acid Tank | HCl                     | 0.01  | 0.01 |
| FA-4609    | 10 percent Hydrochloric Acid Tank | HCl                     | 0.01  | 0.01 |
| FB-6470    | Solvent Storage Tank              | VOC                     | 0.32  | 0.01 |
| FA-3204    | Ethylene Glycol Storage Tank      | VOC                     | 0.01  | 0.01 |

Emission Sources - Maximum Allowable Emission Rates

|             |                              |                   |        |        |
|-------------|------------------------------|-------------------|--------|--------|
| COOLTWR     | West Cooling Tower           | HRVOC             | 0.13   | 0.49   |
|             |                              | VCM (VOC)         | 2.34   | 2.57   |
|             |                              | VOC – Total       | 2.34   | 2.91   |
|             |                              | PM                | 2.63   | 9.78   |
|             |                              | PM <sub>10</sub>  | 1.84   | 6.85   |
|             |                              | PM <sub>2.5</sub> | 1.10   | 4.11   |
|             |                              | Cl <sub>2</sub>   | < 0.01 | 0.01   |
| COOLTWR-2   | East Cooling Tower           | HRVOC             | 0.10   | 0.37   |
|             |                              | VCM (VOC)         | 1.76   | 1.90   |
|             |                              | VOC – Total       | 1.76   | 2.18   |
|             |                              | PM                | 0.99   | 3.67   |
|             |                              | PM <sub>10</sub>  | 0.69   | 2.57   |
|             |                              | PM <sub>2.5</sub> | 0.41   | 1.54   |
|             |                              | Cl <sub>2</sub>   | < 0.01 | < 0.01 |
| COOLTWR-4/5 | Final Effluent Cooling Tower | HRVOC             | < 0.01 | < 0.01 |
|             |                              | VOC – Total       | 0.01   | 0.01   |
|             |                              | PM                | 0.07   | 0.29   |
|             |                              | PM <sub>10</sub>  | 0.05   | 0.20   |
|             |                              | PM <sub>2.5</sub> | 0.03   | 0.12   |
|             |                              | Cl <sub>2</sub>   | < 0.01 | < 0.01 |
| F-P-MSS     | MSS of VCM Spheres           | VCM (VOC)         | 227.27 | 0.28   |
|             |                              | VOC – Total       | 227.27 | 0.28   |

- (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
  - HRVOC - highly reactive volatile organic compounds as defined in 30 TAC § 115.10
  - EDC (VOC) - ethylene dichloride
  - VCM (VOC) - vinyl chloride monomer
  - CHCl<sub>3</sub> (VOC) - chloroform
  - HCl - hydrogen chloride
  - Cl<sub>2</sub> - chlorine
  - 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
  - HBr - hydrogen bromide
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.

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- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Maintenance operations only. Emissions from these EPNs are only from these permitted facilities.
- (7) Emission limit prior to operation of the Cracking Furnace 104 (95 MMBtu/hr) (EPN IND104) Amendment Application PI-1 submitted November 2021 (NSR Project No. 335647).
- (8) Emission limit after the operation of the Cracking Furnace 104 (95 MMBtu/hr) (EPN IND104) Amendment Application PI-1 submitted November 2021 (NSR Project No. 335647).

May 6, 2022