

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 4757

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) | Emission Rates * | |
|---------------------------|----------------------------------|-----------------------------|------------------|-------|
| | | | lb/hr | TPY |
| P-3 Polyol Unit | | | | |
| F2303PV | P3 Alcohol Tank | VOC | <0.01 | <0.01 |
| F2309PV | P3 DEOA Tank | VOC | <0.01 | <0.01 |
| P2102APVA | P3 Intermediate Tank | VOC | 0.17 | 0.01 |
| F2102APVB | P3 Intermediate Tank | VOC | 0.17 | 0.01 |
| F2102BPVA | P3 Intermediate Tank | VOC | 0.17 | 0.01 |
| F2102BPVB | P3 Intermediate Tank | VOC | 0.17 | 0.01 |
| D2201MV | P3 Neutralizer | VOC | 0.527 | 0.237 |
| F2209MV | P3 Slurry Tank | VOC | 0.009 | 0.005 |
| F2206PV | P3 Filter Feed Tank | VOC | 0.29 | 0.14 |
| F2203PV | P3 Impurity Absorber Tank | VOC | 0.02 | 0.01 |
| F2204APV | P3 Flash Drum Feed Tank | VOC | 0.46 | 0.11 |
| F2204BPV | P3 Flash Drum Feed Tank | VOC | 0.46 | 0.11 |
| F2202V | P3 Off-Spec Product Storage Tank | VOC | <0.01 | <0.01 |
| F2205PV | P3 Stabilizer Tank | VOC | <0.01 | <0.01 |
| F2305APV | P3 Rundown Tank | VOC | <0.01 | <0.01 |

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|---------------------------|--|-----------------------------|------------------|----------|
| | | | lb/hr | TPY |
| F2305BPV | P3 Rundown Tank | VOC | <0.01 | <0.01 |
| F2306APV | P3 Product Tank | VOC | <0.01 | <0.01 |
| F2306BPV | P3 Product Tank | VOC | <0.01 | <0.01 |
| F2306CPV | P3 Product Tank | VOC | <0.01 | <0.01 |
| F2306DPV | P3 Product Tank | VOC | <0.01 | <0.01 |
| F2306EPV | P3 Product Tank | VOC | <0.01 | <0.01 |
| F2306FPV | P3 Product Tank | VOC | <0.01 | <0.01 |
| F2306GPV | P3 Product Tank | VOC | <0.01 | <0.01 |
| F2306HPV | P3 Product Tank | VOC | <0.01 | <0.01 |
| P3LE | P3 Loading Emissions | VOC | <0.01 | <0.01 |
| P3PUFE | P3 Process Unit Fugitive Emissions (4) | | VOC | 0.04 |
| P3OSFE | P3 Oxide System Fugitive Emissions (4) 0.49 | | VOC | 0.13 |
| F2207VSV | P3 Flash Drum Vacuum System | VOC | 0.40** | 1.07** |
| D2101VSV | P3 Reactor Vacuum System | VOC | 43.00** | 24.90** |
| D2101VSV | P3 Reactor Vacuum System (5) | VOC | <0.01*** | <0.01*** |
| P3FL1 | P3 Flare | VOC | 0.87*** | 0.51*** |
| | | NO _x | 0.15 | 0.13*** |
| | | CO | 1.33*** | 1.11*** |
| P-4 Polyol Unit | | | | |
| F3303APV | P4 Alcohol Tank | VOC | <0.01 | <0.01 |

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|---------------------------|---------------------------|-----------------------------|-------------------------|-------|
| | | | lb/hr | TPY |
| F3303BPV | P4 Alcohol Tank | VOC | <0.01 | <0.01 |
| F3303CPV | P4 Alcohol Tank | VOC | <0.01 | <0.01 |
| P3102APV | P4 Intermediate Tank | VOC | 0.34 | 0.02 |
| F3102BPV | P4 Intermediate Tank | VOC | 0.34 | 0.02 |
| F3102CPV | P4 Intermediate Tank | VOC | 0.34 | 0.02 |
| D3201MV | P4 Neutralizer | VOC | 0.480 | 0.237 |
| F3209MV | P4 Slurry Tank | VOC | 0.016 | 0.008 |
| F3206PV | P4 Filter Feed Tank | VOC | 0.43 | 0.24 |
| F3203PV | P4 Impurity Absorber Tank | VOC | 0.02 | 0.01 |
| F3204APV | P4 Flash Drum Feed Tank | VOC | 0.15 | 0.12 |
| F3204BPV | P4 Flash Drum Feed Tank | VOC | 0.15 | 0.12 |
| F3205PV | P4 Stabilizer Tank | VOC | <0.01 | <0.01 |
| F3305APV | P4 Rundown Tank | VOC | <0.01 | <0.01 |
| F3305BPV | P4 Rundown Tank | VOC | <0.01 | <0.01 |
| F3305CPV | P4 Rundown Tank | VOC | <0.01 | <0.01 |
| F3306APV | P4 Product Tank | VOC | <0.01 | <0.01 |
| F3306BPV | P4 Product Tank | VOC | <0.01 | <0.01 |

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|---------------------------|--|-----------------------------|------------------|-------|
| | | | lb/hr | TPY |
| F3306CPV | P4 Product Tank | VOC | <0.01 | <0.01 |
| F3306DPV | P4 Product Tank | VOC | <0.01 | <0.01 |
| F3306EPV | P4 Product Tank | VOC | <0.01 | <0.01 |
| F3306FPV | P4 Product Tank | VOC | <0.01 | <0.01 |
| P4LE | P4 Loading Emissions | VOC | <0.01 | <0.01 |
| P4PUFE | P4 Process Unit Fugitive Emissions (4) VOC | | 0.04 | 0.27 |
| P4OSFE 0.49 | P4 Oxide System Fugitive Emissions (4) | | VOC | 0.13 |
| D3101VSV | P4 Reactor Vacuum System (5) | VOC | <0.01 | <0.01 |
| P4FL1 | P4 Flare | VOC | 0.87 | 0.58 |
| | | NO _x | 0.15 | 0.15 |
| | | CO | 1.33 | 1.28 |
| P-5 Polyol Unit | | | | |
| F4303APV | P5 Alcohol Tank | VOC | <0.01 | <0.01 |
| F4303BPV | P5 Alcohol Tank | VOC | <0.01 | <0.01 |
| F4303CPV | P5 Alcohol Tank | VOC | <0.01 | <0.01 |
| P4102APV | P5 Intermediate Tank | VOC | 0.34 | 0.02 |
| F4102BPV | P5 Intermediate Tank | VOC | 0.34 | 0.02 |
| F4102CPV | P5 Intermediate Tank | VOC | 0.34 | 0.02 |

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| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | <u>Emission Rates *</u> | |
|---------------------------|--|-----------------------------|-------------------------|-------|
| | | | lb/hr | TPY |
| D4201MV | P5 Neutralizer | VOC | 0.480 | 0.237 |
| F4209MV | P5 Slurry Tank | VOC | 0.016 | 0.008 |
| F4206PV | P5 Filter Feed Tank | VOC | 0.43 | 0.24 |
| F4203PV | P5 Impurity Absorber Tank | VOC | 0.02 | 0.01 |
| F4204APV | P5 Flash Drum Feed Tank | VOC | 0.15 | 0.12 |
| F4204BPV | P5 Flash Drum Feed Tank | VOC | 0.15 | 0.12 |
| F4205PV | P5 Stabilizer Tank | VOC | <0.01 | <0.01 |
| F4305APV | P5 Rundown Tank | VOC | <0.01 | <0.01 |
| F4305BPV | P5 Rundown Tank | VOC | <0.01 | <0.01 |
| F4305CPV | P5 Rundown Tank | VOC | <0.01 | <0.01 |
| F4306APV | P5 Product Tank | VOC | <0.01 | <0.01 |
| F4306BPV | P5 Product Tank | VOC | <0.01 | <0.01 |
| F4306CPV | P5 Product Tank | VOC | <0.01 | <0.01 |
| F4306DPV | P5 Product Tank | VOC | <0.01 | <0.01 |
| F4306EPV | P5 Product Tank | VOC | <0.01 | <0.01 |
| F4306FPV | P5 Product Tank | VOC | <0.01 | <0.01 |
| P5LE | P5 Loading Emissions | VOC | <0.01 | <0.01 |
| P5PUFE | P5 Process Unit Fugitive Emissions (4) | VOC | 0.04 | 0.27 |

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| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | <u>Emission Rates *</u> | |
|---------------------------|--|-----------------------------|-------------------------|-------|
| | | | lb/hr | TPY |
| P5OSFE | P5 Oxide System Fugitive Emissions (4) 0.49 | | VOC | 0.13 |
| D4101VSV | P5 Reactor Vacuum System (5) | VOC | <0.01 | <0.01 |
| P5FL1 | P5 Flare | VOC | 0.87 | 0.58 |
| | | NO _x | 0.15 | 0.15 |
| | | CO | 1.33 | 1.28 |

Blending Facility

| | | | | |
|----------|--|-----|-------|-------|
| F1306QPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1306RPV | Chemical Blending Oil Storage Tank | VOC | 0.13 | 0.02 |
| F1306SPV | Chemical Blending MDI Storage Tank | VOC | <0.01 | <0.01 |
| F1306TPV | Chemical Blending MDI Storage Tank | VOC | <0.01 | <0.01 |
| F1306UV | Chemical Blending MPDA Storage Tank <0.01 | | VOC | <0.01 |
| F1308VRV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| TK1BMV | Packaging B-Side Blend Tank | VOC | 0.11 | 0.01 |
| TK2BMV | Packaging B-Side Blend Tank | VOC | 0.42 | 0.12 |
| TK3BMV | Chemical Sales Blend Tank | VOC | 0.13 | 0.02 |
| TK4AMV | Packaging A-Side Blend Tank | VOC | <0.01 | <0.01 |

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| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | <u>Emission Rates *</u> | |
|---------------------------|--|-----------------------------|-------------------------|-------|
| | | | lb/hr | TPY |
| TK8BMV | Flexible System B-Side Blend Tank | VOC | 0.01 | <0.01 |
| TK8BCV | Flexible System B-Side Blend Tank | VOC | 0.08 | 0.01 |
| TK9BMV | Rigid System B-Side Blend Tank | VOC | 0.01 | <0.01 |
| TK9BCV | Rigid System B-Side Blend Tank | VOC | 0.19 | <0.05 |
| TK5AMV | Chemical Blending TDI Storage Tank | VOC | 0.02 | <0.01 |
| F1308APV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308BPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308CPV | Tirefill A-Side Storage | VOC | 0.11 | 0.01 |
| F1308DPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308EPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308FPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308GPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308HPV | Tirefill B-Side Storage Tank | VOC | 0.11 | 0.01 |
| F1308JPV | Tirefill A-Side Storage Tank | VOC | 0.11 | 0.01 |
| F1308KPV | Chemical Blending Polyol Storage Tank | | VOC | <0.01 |

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AIR CONTAMINANTS DATA

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | <u>Emission Rates *</u> | |
|---------------------------|--|-----------------------------|-------------------------|------------|
| | | | <u>lb/hr</u> | <u>TPY</u> |
| | <0.01 | | | |
| F1308LPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308MPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308NPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308PPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308QPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308RPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308SPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308TPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| F1308UPV | Chemical Blending Polyol Storage Tank <0.01 | | VOC | <0.01 |
| TK6APV | Tirefill A-Side Blend Tank | VOC | 0.13 | 0.01 |
| TK7BPV | Tirefill B-Side Blend Tank | VOC | 0.83 | 0.01 |
| CBLE | Chemical Blending Loading Emissions | VOC | 3.61 | 0.31 |

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AIR CONTAMINANTS DATA

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | <u>Emission Rates *</u> | |
|---------------------------|--------------------------------------|-----------------------------|-------------------------|------------|
| | | | <u>lb/hr</u> | <u>TPY</u> |
| CBFE | Chemical Blending Fugitive Emissions | VOC | 0.08 | 0.35 |

- (1) Emission point identification -either specific equipment designation or emissions 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 - nitrogen oxide
- CO - carbon monoxide
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) Emissions from the P3 Reactor (after flare installation), P4 Reactor and P5 Reactor represent other vacuum steps that may not go to the flare.

* 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

** Emissions from the P3 Reactor and flash drum vacuum systems prior to flare installation which must be completed no later than the start-up of P5 but no later than November 1, 1999. After flare installation Emission Point No. F2207VSV will no longer exist.

*** Emissions from the P3 Reactor vacuum system and flare after flare installation which must be completed no later than the start-up of P5 but no later than November 1, 1999.

Dated May 20, 2002