

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

### Emission Source Caps

Permit Number 21918

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.

The sources and emission points authorized under this permit are noted in Attachment C, Emission Caps List. Compliance with the emission rates is based on the aggregate emissions of the sources noted on the Emission Cap List Table which are subject to that cap.

### AIR CONTAMINANTS DATA

#### VOC Emission Cap

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY (7/04)</u> |
|------------------|------------------|--------------|-------------------|
| See Attachment C | 1997             | (5)          | 999.37            |
|                  | 1998             | (5)          | 999.37            |
|                  | 1999             | (5)          | 805.2             |
|                  | 2000             | (5)          | 906.3             |
|                  | 2001             | (5)          | 882.6             |
|                  | 2002             | (5)          | 871.4             |
|                  | 2003             | (5)          | 859.6             |
|                  | 2004             | (5)          | 851.65            |
|                  | 2005             | (5)          | 828.6             |
|                  | 2006 - Final Cap | (5)          | 828.6             |

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**SO<sub>2</sub> Emission Cap**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 451          | 515.1      |
|                  | 1998             | 451          | 515.1      |
|                  | 1999             | 451          | 514.6      |
|                  | 2000             | 451          | 514.6      |
|                  | 2001             | 451          | 513.8      |
|                  | 2002             | 451          | 513.8      |
|                  | 2003             | 451          | 513.8      |
|                  | 2004             | 451          | 513.8      |
|                  | 2005             | 451          | 513.8      |
|                  | 2006 - Final Cap | 451          | 513.8      |

**NO<sub>x</sub> Emission Cap**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr (8/98)</u> | <u>TPY</u> |
|------------------|------------------|---------------------|------------|
| See Attachment C | 1997             | 60.4                | 37.4       |
|                  | 1998             | 60.4                | 37.4       |
|                  | 1999             | 60.4                | 37.4       |
|                  | 2000             | 60.4                | 37.4       |
|                  | 2001             | 60.4                | 37.4       |
|                  | 2002             | 60.4                | 37.4       |
|                  | 2003             | 60.4                | 37.4       |
|                  | 2004             | 60.4                | 37.4       |
|                  | 2005             | 60.8                | 40.6       |
|                  | 2006 - Final Cap | 60.8                | 40.6       |

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**CO Emission Cap**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr (8/98)</u> | <u>TPY</u> |
|------------------|------------------|---------------------|------------|
| See Attachment C | 1997             | 24.3                | 69.6       |
|                  | 1998             | 24.3                | 69.6       |
|                  | 1999             | 24.3                | 69.6       |
|                  | 2000             | 24.3                | 69.6       |
|                  | 2001             | 24.3                | 69.6       |
|                  | 2002             | 24.3                | 69.6       |
|                  | 2003             | 24.3                | 69.6       |
|                  | 2004             | 24.3                | 69.6       |
|                  | 2005             | 24.4                | 70.5       |
|                  | 2006 - Final Cap | 24.4                | 70.5       |

**H<sub>2</sub>S Emission Cap**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr (7/04)</u> | <u>TPY (7/04)</u> |
|------------------|------------------|---------------------|-------------------|
| See Attachment C | 1997             | 62.4                | 242.7             |
|                  | 1998             | 56.5                | 220.6             |
|                  | 1999             | 41.7                | 157.2             |
|                  | 2000             | 40.8                | 161.7             |
|                  | 2001             | 40.8                | 161.7             |
|                  | 2002             | 40.5                | 161.7             |
|                  | 2003             | 40.5                | 161.7             |
|                  | 2004             | 40.2                | 160.5             |
|                  | 2005             | 40.0                | 159.4             |
|                  | 2006 - Final Cap | 40.0                | 159.4             |

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**PM Emission Cap**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 1.28         | 2.4        |
|                  | 1998             | 1.28         | 2.4        |
|                  | 1999             | 1.28         | 2.4        |
|                  | 2000             | 1.28         | 2.4        |
|                  | 2001             | 1.28         | 2.4        |
|                  | 2002             | 1.28         | 2.4        |
|                  | 2003             | 1.28         | 2.4        |
|                  | 2004             | 1.28         | 2.4        |
|                  | 2005             | 1.28         | 2.7        |
|                  | 2006 - Final Cap | 1.28         | 2.7        |

**Group A VOC Emission Cap (6)**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 1113.07      | (7)        |
|                  | 1998             | 808.9        | (7)        |
|                  | 1999             | 813.3        | (7)        |
|                  | 2000             | 809.9        | (7)        |
|                  | 2001             | 645.9        | (7)        |
|                  | 2002             | 645.9        | (7)        |
|                  | 2003             | 154.3        | (7)        |
|                  | 2004             | 154.3        | (7)        |
|                  | 2005             | 154.3        | (7)        |
|                  | 2006 - Final Cap | 154.3        | (7)        |

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**Group B VOC Emission Cap (8)**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 98.56        | (7)        |
|                  | 1998             | 98.56        | (7)        |
|                  | 1999             | 88.7         | (7)        |
|                  | 2000             | 88.7         | (7)        |
|                  | 2001             | 88.7         | (7)        |
|                  | 2002             | 29.6         | (7)        |
|                  | 2003             | 27.9         | (7)        |
|                  | 2004             | 27.9         | (7)        |
|                  | 2005             | 27.9         | (7)        |
|                  | 2006 - Final Cap | 27.9         | (7)        |

**Group C VOC Emission Cap (9)**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 83.08        | (7)        |
|                  | 1998             | 83.08        | (7)        |
|                  | 1999             | 67.28        | (7)        |
|                  | 2000             | 47.03        | (7)        |
|                  | 2001             | 47.03        | (7)        |
|                  | 2002             | 47.03        | (7)        |
|                  | 2003             | 45.03        | (7)        |
|                  | 2004             | 45.03        | (7)        |
|                  | 2005             | 45.03        | (7)        |
|                  | 2006 - Final Cap | 45.03        | (7)        |

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**Group D VOC Emission Cap (10)**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 1.68         | (7)        |
|                  | 1998             | 0.81         | (7)        |
|                  | 1999             | 0.81         | (7)        |
|                  | 2000             | 0.81         | (7)        |
|                  | 2001             | 0.81         | (7)        |
|                  | 2002             | 0.81         | (7)        |
|                  | 2003             | 0.81         | (7)        |
|                  | 2004             | 0.81         | (7)        |
|                  | 2005             | 0.81         | (7)        |
|                  | 2006 - Final Cap | 0.81         | (7)        |

**Ethyl Mercaptan Emission Cap (11)**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 7.18         | (7)        |
|                  | 1998             | 5.85         | (7)        |
|                  | 1999             | 5.56         | (7)        |
|                  | 2000             | 5.34         | (7)        |
|                  | 2001             | 5.34         | (7)        |
|                  | 2002             | 5.34         | (7)        |
|                  | 2003             | 5.34         | (7)        |
|                  | 2004             | 5.34         | (7)        |
|                  | 2005             | 5.34         | (7)        |
|                  | 2006 - Final Cap | 5.34         | (7)        |

**Isopropyl Mercaptan Emission Cap (11)**

| <u>Sources</u> | <u>Year</u> | <u>lb/hr</u> | <u>TPY</u> |
|----------------|-------------|--------------|------------|
|----------------|-------------|--------------|------------|

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|                  |                  |      |     |
|------------------|------------------|------|-----|
| See Attachment C | 1997             | 6.94 | (7) |
|                  | 1998             | 6.56 | (7) |
|                  | 1999             | 5.51 | (7) |
|                  | 2000             | 3.64 | (7) |
|                  | 2001             | 3.64 | (7) |
|                  | 2002             | 3.64 | (7) |
|                  | 2003             | 3.64 | (7) |
|                  | 2004             | 3.64 | (7) |
|                  | 2005             | 3.64 | (7) |
|                  | 2006 - Final Cap | 3.64 | (7) |

**n Propyl Mercaptan Emission Cap (11)**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 8.95         | (7)        |
|                  | 1998             | 7.61         | (7)        |
|                  | 1999             | 5.29         | (7)        |
|                  | 2000             | 3.52         | (7)        |
|                  | 2001             | 3.52         | (7)        |
|                  | 2002             | 3.52         | (7)        |
|                  | 2003             | 3.52         | (7)        |
|                  | 2004             | 3.52         | (7)        |
|                  | 2005             | 3.52         | (7)        |
|                  | 2006 - Final Cap | 3.52         | (7)        |

**n Butyl Mercaptan Emission Cap (11)**

| <u>Sources</u>   | <u>Year</u> | <u>lb/hr</u> | <u>TPY</u> |
|------------------|-------------|--------------|------------|
| See Attachment C | 1997        | 28.58        | (7)        |
|                  | 1998        | 27.38        | (7)        |

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|                  |       |     |
|------------------|-------|-----|
| 1999             | 25.01 | (7) |
| 2000             | 23.13 | (7) |
| 2001             | 2.55  | (7) |
| 2002             | 2.55  | (7) |
| 2003             | 2.55  | (7) |
| 2004             | 2.55  | (7) |
| 2005             | 2.55  | (7) |
| 2006 - Final Cap | 2.55  | (7) |

**t Butyl Mercaptan Emission Cap (11)**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 7.43         | (7)        |
|                  | 1998             | 7.31         | (7)        |
|                  | 1999             | 4.82         | (7)        |
|                  | 2000             | 3.02         | (7)        |
|                  | 2001             | 3.02         | (7)        |
|                  | 2002             | 3.02         | (7)        |
|                  | 2003             | 3.02         | (7)        |
|                  | 2004             | 3.02         | (7)        |
|                  | 2005             | 3.02         | (7)        |
|                  | 2006 - Final Cap | 3.02         | (7)        |

**Secondary Butyl Mercaptan Emission Cap (11)**

| <u>Sources</u>   | <u>Year</u> | <u>lb/hr</u> | <u>TPY</u> |
|------------------|-------------|--------------|------------|
| See Attachment C | 1997        | 9.22         | (7)        |
|                  | 1998        | 7.66         | (7)        |
|                  | 1999        | 5.15         | (7)        |



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|                  |      |     |
|------------------|------|-----|
| 2000             | 3.23 | (7) |
| 2001             | 3.23 | (7) |
| 2002             | 3.23 | (7) |
| 2003             | 3.23 | (7) |
| 2004             | 3.23 | (7) |
| 2005             | 3.23 | (7) |
| 2006 - Final Cap | 3.23 | (7) |

**Benzyl Mercaptan Emission Cap (11)**

| <u>Sources</u>   | <u>Year</u>      | <u>lb/hr</u> | <u>TPY</u> |
|------------------|------------------|--------------|------------|
| See Attachment C | 1997             | 0.43         | (7)        |
|                  | 1998             | 0.43         | (7)        |
|                  | 1999             | 0.42         | (7)        |
|                  | 2000             | 0.42         | (7)        |
|                  | 2001             | 0.42         | (7)        |
|                  | 2002             | 0.42         | (7)        |
|                  | 2003             | 0.42         | (7)        |
|                  | 2004             | 0.42         | (7)        |
|                  | 2005             | 0.42         | (7)        |
|                  | 2006 - Final Cap | 0.42         | (7)        |

**1,2 Ethanedithiol Emission Cap (11)**

| <u>Sources</u>   | <u>Year</u> | <u>lb/hr</u> | <u>TPY</u> |
|------------------|-------------|--------------|------------|
| See Attachment C | 1997        | 1.47         | (7)        |
|                  | 1998        | 0.78         | (7)        |
|                  | 1999        | 0.74         | (7)        |
|                  | 2000        | 0.74         | (7)        |

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|                  |      |     |
|------------------|------|-----|
| 2001             | 0.74 | (7) |
| 2002             | 0.74 | (7) |
| 2003             | 0.74 | (7) |
| 2004             | 0.74 | (7) |
| 2005             | 0.74 | (7) |
| 2006 - Final Cap | 0.74 | (7) |

**Dimethyl Sulfide Emission Cap (11)**

| Sources          | Year             | lb/hr (7/04) | TPY |
|------------------|------------------|--------------|-----|
| See Attachment C | 1997             | 18.68        | (7) |
|                  | 1998             | 18.68        | (7) |
|                  | 1999             | 2.9          | (7) |
|                  | 2000             | 2.9          | (7) |
|                  | 2001             | 2.9          | (7) |
|                  | 2002             | 2.9          | (7) |
|                  | 2003             | 2.9          | (7) |
|                  | 2004             | 2.85         | (7) |
|                  | 2005             | 2.8          | (7) |
|                  | 2006 - Final Cap | 2.8          | (7) |

**Methyl Ethyl Sulfide Emission Cap (11)**

| Sources          | Year | lb/hr | TPY |
|------------------|------|-------|-----|
| See Attachment C | 1997 | 8.06  | (7) |
|                  | 1998 | 5.91  | (7) |
|                  | 1999 | 2.55  | (7) |
|                  | 2000 | 2.55  | (7) |
|                  | 2001 | 2.55  | (7) |
|                  | 2002 | 2.55  | (7) |

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|                  |      |     |
|------------------|------|-----|
| 2003             | 2.55 | (7) |
| 2004             | 2.55 | (7) |
| 2005             | 2.55 | (7) |
| 2006 - Final Cap | 2.55 | (7) |

### Acetone Emission Cap

| Sources | lb/hr | TPY |
|---------|-------|-----|
| (12)    | 1.81  | 5.0 |

- (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 General Rule 101.1
  - NO<sub>x</sub> - total oxides of nitrogen
  - SO<sub>2</sub> - sulfur dioxide
  - PM - particulate matter, suspended in the atmosphere, including PM<sub>10</sub>.
  - PM<sub>10</sub> - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
  - CO - carbon monoxide
  - H<sub>2</sub>S - hydrogen sulfide
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) The VOC hourly caps are restricted on a pollutant by pollutant basis.
- (6) Total hourly emissions of any single compound listed on Attachment A, Group A from the sources listed on Attachment C, Emission Caps List are restricted to this emission rate.
- (7) Total VOC emissions from all sources listed on Attachment C, Emission Caps List are restricted to the annual value represented under the VOC cap.
- (8) Total hourly emissions of any single compound listed on Attachment A, Group B from the sources listed on Attachment C, Emission Caps List are restricted to this emission rate.
- (9) Total hourly emissions of any single compound listed on Attachment A, Group C from the sources listed on Attachment C, Emission Caps List are restricted to this emission rate.
- (10) Total hourly emissions of any single compound listed on Attachment A, Group D from the sources listed on Attachment C, Emission Caps List are restricted to this emission rate.
- (11) Total hourly emissions of this compound from the sources listed on Attachment C, Emission Caps List are restricted to this emission rate.
- (12) Acetone is used as part of an automatic cleaning sequence for certain types of on-line analyzers

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employed in various locations throughout the facility.

\* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

\_\_\_\_\_Hrs/day \_\_\_\_\_Days/week \_\_\_\_\_Weeks/year or 8,760 Hrs/year.

Dated August 6, 2004