

# Adipic Acid Production Monitoring Checklist



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## Final Rule: Mandatory Reporting of Greenhouse Gases

### *What Must Be Monitored for Each Adipic Acid Production Unit?*

#### Measure these parameters...

##### Monthly:

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- |  |   |
|--|---|
| <input type="checkbox"/> Adipic acid production rate (can be determined through sales records or by direct measurement using flow meters or weigh scales) (tons) | <input type="checkbox"/> Annual adipic acid production during which N <sub>2</sub> O abatement technology is operating (tons) |
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##### Other parameters:

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|--|---|
| <input type="checkbox"/> Number of operating hours in the year (hours) | <input type="checkbox"/> Annual amount of process N <sub>2</sub> O emissions from adipic acid production sold or transferred off site (metric tons) |
|--|---|

#### Annual Emission Factor Determination:

Facilities must conduct a performance test to calculate the process-specific emission factor either annually or whenever the adipic acid production process is changed by altering the ratio of cyclohexanone to cyclohexanol or by installing abatement equipment. The general procedure is as follows:

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- |   |  |
|---|--|
| <input type="checkbox"/> Measure N <sub>2</sub> O emissions at the vent stream from the nitric acid oxidation step of the adipic acid production process using test methods specified in the rule | <input type="checkbox"/> Calculate a process-specific emission factor for each adipic acid production unit as defined in subpart E of the rule |
| <input type="checkbox"/> Measure the production rate during the test, and calculate the production rate for the test period in metric tons per hour   |  |

During the performance test the following must also be monitored:

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- N<sub>2</sub>O concentration per test run  
(parts per million N<sub>2</sub>O)
- Volumetric flow rate of effluent gas  
(dry standard cubic feet/hr)
- Production rate per test run  
(tons adipic acid produced/hour)

### **Determine Abatement Efficiency:**

For each N<sub>2</sub>O abatement technology, the destruction efficiency must be determined using one of the following:

- The destruction efficiency specified by the manufacturer
- Calculate the destruction efficiency using process knowledge
- Conduct a performance test

**If an N<sub>2</sub>O abatement technology is used, measure the following parameters:**

- Annual adipic acid production during which N<sub>2</sub>O abatement was used
- Destruction efficiency of N<sub>2</sub>O abatement technology (abatement device destruction efficiency, percent of N<sub>2</sub>O removed from air stream)
- Total annual adipic acid production (tons acid produced)

See also the information sheet for Adipic Acid Production (EPA-430-F-09-038R at: [www.epa.gov/ghgreporting/documents/pdf/infosheets/adipicacidproduction.pdf](http://www.epa.gov/ghgreporting/documents/pdf/infosheets/adipicacidproduction.pdf)).

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