

Nitric Acid Production Monitoring Checklist



Final Rule: Mandatory Reporting of Greenhouse Gases

What Must Be Monitored for Each Nitric Acid Train?

Measure these parameters...

Monthly:

- | | |
|---|---|
| <input type="checkbox"/> Nitric acid production determined through sales records or by direct measurement using flow meters or weigh scales) (tons acid produced, 100 percent acid basis) | <input type="checkbox"/> Nitric acid production during which N ₂ O abatement technology is operating determined through sales records or by direct measurement using flow meters or weigh scales) (tons acid produced, 100 percent acid basis) |
|---|---|

Other parameters:

- | | |
|---|--|
| <input type="checkbox"/> Number of operating hours in the calendar year | <input type="checkbox"/> Number of times missing data procedures were followed |
|---|--|

Annual Emission Factor Determination:

For each nitric acid train, determine a site-specific emission factor by conducting a performance test annually and whenever the nitric acid production process is changed. The general procedure is as follows:

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| <input type="checkbox"/> Conduct the performance test under normal process operating conditions without using N ₂ O abatement technology | <input type="checkbox"/> Conduct at least three one-hour test runs |
|---|--|

For each test run:

- | | |
|--|--|
| <input type="checkbox"/> Determine N ₂ O emissions from the absorber tail gas vent of the nitric acid train, using test methods specified in the rule | <input type="checkbox"/> Measure the production rate (in tons acid produced per hour, 100 percent acid basis) using either direct measurement (e.g., flow meters) of production and concentration or existing procedures used for accounting purposes (e.g., tank level and acid concentration measurements) |
|--|--|

Calculate the site-specific emission factor by measuring:

- | | |
|---|---|
| <input type="checkbox"/> N ₂ O concentration
(parts per million N ₂ O) | <input type="checkbox"/> Volumetric flow rate of effluent gas
(dry standard cubic feet/hr) |
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Determine Abatement Efficiency:

For each N₂O 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

See also the information sheet for Nitric Acid Production (EPA-430-F-09-025R) at:
www.epa.gov/climatechange/emissions/downloads/infosheets/nitricacidproduction.pdf.

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