

Lime Manufacturing Monitoring Checklist

Subpart S, Greenhouse Gas Reporting Program



What Must Be Monitored for Kilns?

If NOT using a CEMS, measure these parameters...

For determining the monthly emission factor for each type of lime produced:

- | | |
|--|--|
| <input type="checkbox"/> Calcium oxide content for each lime type (metric tons CaO/metric ton lime), analyzed monthly. | <input type="checkbox"/> Magnesium oxide content for each lime type (metric tons MgO/metric ton lime), analyzed monthly. |
|--|--|

For determining the monthly emission factor for each type of byproduct/waste sold (including lime kiln dust):

- | | |
|--|--|
| <input type="checkbox"/> Calcium oxide content for each solid lime byproduct/waste type (metric tons CaO/metric ton lime), analyzed monthly. | <input type="checkbox"/> Magnesium oxide content for each solid lime byproduct/waste type (metric tons MgO/metric ton lime), analyzed monthly. |
|--|--|

For determining annual CO₂ emissions from each type of byproduct/waste that is not sold (including lime kiln dust and scrubber sludge):

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|--|---|
| <input type="checkbox"/> Calcium oxide content for each unsold lime byproduct/waste type (metric tons CaO/metric ton lime), analyzed annually. | <input type="checkbox"/> Annual weight or mass of unsold byproducts/wastes for each lime type (tons). |
| <input type="checkbox"/> Magnesium oxide content for each unsold lime byproduct/waste type (metric tons MgO/metric ton lime), analyzed annually. | |

For determining annual CO₂ process emissions for all kilns:

- | | |
|---|---|
| <input type="checkbox"/> Monthly weight or mass of each lime type produced (tons) | <input type="checkbox"/> Monthly weight or mass of byproducts/waste sold (such as lime kiln dust) for each lime type (tons) |
|---|---|

For all kilns combined (i.e., for the whole facility):

- | | |
|--|--|
| <input type="checkbox"/> Annual average emission factors for each calcined byproduct/waste sold | <input type="checkbox"/> Beginning and end of year inventories for each lime product |
| <input type="checkbox"/> Annual average emission factors for each lime product type produced | <input type="checkbox"/> Beginning and end of year inventories for lime byproducts/wastes |
| <input type="checkbox"/> Annual quantity (tons) of lime product sold | <input type="checkbox"/> Annual average results of chemical composition analysis of each type of lime product produced and calcined byproduct/waste sold |
| <input type="checkbox"/> Annual amount of CO ₂ captured for use in the onsite process (if applicable) | <input type="checkbox"/> Annual lime production capacity (tons) |

If using a CEMS:

In addition to the monitoring requirements under 40 CFR subpart C for the Tier 4 Calculation Methodology, measure these parameters for each kiln...

- | | |
|---|---|
| <input type="checkbox"/> Annual amount of lime product sold, by type (tons) | <input type="checkbox"/> Annual amount of lime product not sold, by type (tons) |
| <input type="checkbox"/> Annual amount of lime byproduct/waste sold, by type (tons) | <input type="checkbox"/> Beginning and end of year inventories for each lime product |
| <input type="checkbox"/> Annual amount of lime byproduct/waste not sold, by type (tons) | <input type="checkbox"/> Beginning and end of year inventories for lime byproducts/wastes |

See also the information sheet for Lime Manufacturing at:
<https://www.epa.gov/ghgreporting/subpart-s-information-sheet>.

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