

Petrochemical Production

Monitoring Checklist



Final Rule: Mandatory Reporting of Greenhouse Gases

What Must Be Monitored for Each Petrochemical Production Process Unit?

If using a CEMS...

In addition to the monitoring requirements under 40 CFR subpart C for the Tier 3 (for CH₄ and N₂O emissions) and Tier 4 Calculation Methodologies (for CO₂) and the requirements under 40 CFR subpart Y for flares, measure these parameters...

- Annual quantity of each type of petrochemical (as defined in rule) produced from each process unit (metric tons)

If NOT using a CEMS...

Measure the applicable parameters monthly (unless otherwise noted) from the list below...

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| <input type="checkbox"/> Volume of each gaseous feedstock (standard cubic feet [scf]) | <input type="checkbox"/> Volume of each gaseous product (scf) |
| <input type="checkbox"/> Either of the following: <ul style="list-style-type: none">▪ Carbon content of each gaseous feedstock (kilograms [kg] carbon [C] per kg of feedstock) and molecular weight of each gaseous feedstock (kg/kg-mole), or▪ Concentrations of each carbon-containing compound in each gaseous feedstock (kg-mole of component per kg-mole of feedstock) | <input type="checkbox"/> Either of the following: <ul style="list-style-type: none">▪ Carbon content of each gaseous product, including streams containing CO₂ recovered for sale or use in another process (kg C per kg of product) and molecular weight of gaseous product (kg/kg-mole), or▪ Concentrations of each carbon-containing compound in each gaseous product (kg-mole of component per kg-mole of product) |
| <input type="checkbox"/> Volume or mass of each liquid feedstock (gallons or kg) | <input type="checkbox"/> Volume or mass of each liquid product (gallons or kg) |
| <input type="checkbox"/> Either of the following: <ul style="list-style-type: none">▪ Carbon content of each liquid | <input type="checkbox"/> Either of the following: <ul style="list-style-type: none">▪ Carbon content of each liquid |

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| <ul style="list-style-type: none"> ▪ Concentrations of each carbon-containing compound in each liquid feedstock (kg-mole/gallon) | <ul style="list-style-type: none"> ▪ Concentrations of each carbon-containing compound in each liquid product (kg-mole/gallon) |
| <input type="checkbox"/> Mass of each solid feedstock (kg) | <input type="checkbox"/> Mass of each solid product (kg) |
| <input type="checkbox"/> Carbon content of each solid feedstock (kg C per kg of feedstock) | <input type="checkbox"/> Carbon content of each solid product (kg C per kg of product) |
| <input type="checkbox"/> Annual quantity of each type of petrochemical produced from each process unit (metric tons) | |

If you comply with the alternative to sampling and carbon content analysis for a feedstock or product that is greater than 99.5 percent by volume or mass of a single compound, monthly carbon content measurements are not necessary for that particular feedstock or product, but the following must be measured or determined:

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| <input type="checkbox"/> The amount of time, and start and end times, that off-specification product was produced | <input type="checkbox"/> If applicable, the date of any process change that reduced the composition to less than 99.5 percent |
| <input type="checkbox"/> Calculated carbon content of the off-specification product | <input type="checkbox"/> Monthly volume or mass of feedstock or product (scf, gallon, or kg) |

If using the optional combustion methodology for ethylene production processes: In addition to the monitoring requirements under 40 CFR subpart C for the Tier 3 and 4 Calculation Methodologies and under 40 CFR subpart Y for flares, measure these parameters...

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| <input type="checkbox"/> Annual quantity of ethylene produced from each ethylene process unit (metric tons) | <input type="checkbox"/> Annual quantity of each feedstock used (metric tons) |
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See also the information sheet for Petrochemical Production (EPA-430-F-09-023R) at: www.epa.gov/ghgreporting/documents/pdf/infosheets/PetrochemicalProduction.pdf.

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