

Petrochemical Production

Subpart X, Greenhouse Gas Reporting Program

Measure these parameters for each petrochemical production process unit:



What Must Be Monitored?

If using a continuous emissions monitoring system (CEMS), in addition to the monitoring requirements under 40 CFR Subpart C for the Tier 4 Calculation Methodology and the requirements under 40 CFR Subpart Y for flares:

- Annual quantity of each type of petrochemical (as defined in the rule) produced (metric tons).
- Annual quantity of each carbon (C)-containing feedstock (metric tons) and annual quantity of each product (metric tons).

If using the optional combustion methodology for ethylene (C₂H₄) 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:

- Annual quantity of C₂H₄ produced from each C₂H₄ process unit (metric tons).
- Annual quantity of each C-containing feedstock (metric tons).

If NOT using a CEMS and NOT using the optional combustion methodology for C₂H₄ production processes, measure the applicable parameters monthly:

- Volume or mass of each gaseous feedstock (standard cubic feet (scf) or kilograms (kg)).
- C content of each gaseous feedstock (kg C/kg of feedstock). If measuring the volume of the gaseous feedstock, also measure the molecular weight of the feedstock (kg/kg-mole).
- Volume or mass of each liquid feedstock (gallons (gal) or kg).
- C content of each liquid feedstock (kg C/gal or kg of feedstock).
- Mass of each solid feedstock (kg).
- C content of each solid feedstock (kg C/kg of feedstock).
- Volume or mass of each gaseous product (scf or kg).
- C content of each gaseous product, including streams containing CO₂ recovered for sale or use in another process (kg C/kg of product). If measuring the volume of the gaseous product, also measure the molecular weight of product (kg/kg-mole).
- Volume or mass of each liquid product (gal or kg).
- C content of each liquid product, including organic liquid wastes (kg C/gal or kg of product).
- Mass of each solid product (kg).
- C content of each solid product (kg C/kg of product).

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

- C content during months when the feedstock or product content is less than 99.5% by volume or mass (as applicable) of a single compound.
- Monthly volume or mass of feedstock or product (scf, gal, or kg).



For More Information

For additional information and resources on Subpart X, please visit the [Subpart X webpage](#).

This monitoring checklist is provided solely for informational purposes. It does not replace the need to read and comply with the regulatory text contained in the rule. Rather, it is intended to help reporting facilities and suppliers understand key provisions of the GHGRP. It does not provide legal advice; have a legally binding effect; or expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits with regard to any person or entity.