

Phosphoric Acid Production

Subpart Z, Greenhouse Gas Reporting Program

OVERVIEW

Subpart Z of the Greenhouse Gas Reporting Program (GHGRP) (40 CFR §§ 98.260 – 98.268) applies to any facility that contains a phosphoric acid (H_3PO_4) production process and meets the Subpart Z source category definition. Some subparts have thresholds that determine applicability for reporting, and some do not. To decide whether your facility must report under this Subpart, please refer to 40 CFR § 98.261 and the GHGRP [Applicability Tool](#).

This Information Sheet is intended to help facilities reporting under Subpart Z understand how the source category is defined, what greenhouse gases (GHGs) must be reported, how GHG emissions must be calculated and shared with EPA, and where to find more information.



How is This Source Category Defined?

The phosphoric acid (H_3PO_4) production source category consists of facilities that produce H_3PO_4 using a wet-process H_3PO_4 process line where phosphate (PO_4^{3-}) rock reacts with acid.



What GHGs Must Be Reported?

H_3PO_4 production facilities must report carbon dioxide (CO_2) emissions from each wet-process H_3PO_4 process line.

If multiple Greenhouse Gas Reporting Program (GHGRP) source categories are co-located at a facility, the facility may need to report greenhouse gas (GHG) emissions under a different subpart. For example, facilities must report CO_2 , nitrous oxide (N_2O), and methane (CH_4) emissions from each stationary combustion unit on site by following the requirements of Subpart C (General Stationary Fuel Combustion Sources), found at 40 CFR §§ 98.38 – 98.38. Please refer to the relevant information sheet for a summary of the rule requirements for any other source categories located at the facility.



How Must GHG Emissions Be Calculated?

Owners or operators can elect to calculate and report process CO_2 emissions by using one of two methods:

- **Approach One:** Installing and operating a continuous emission monitoring system (CEMS) that complies with the Tier 4 calculation methodology specified in Subpart C (General Stationary Fuel Combustion Sources), found at 40 CFR §§ 98.38 – 98.38; or
- **Approach Two:** Calculating the process CO_2 emissions using the following measurements:
 - Monthly mass of PO_4^{3-} rock consumed by each process line.
 - Monthly inorganic carbon content or CO_2 content of each grab sample of PO_4^{3-} rock.

However, if process CO_2 emissions from H_3PO_4 production are emitted through the same stack as a combustion unit or process equipment that uses a CEMS and follows Tier 4 methodology to report CO_2

emissions, then the CEMS must be used to measure and report combined CO₂ emissions from that stack. In such cases, the reporter cannot use the CO₂ calculation methodology outlined in Approach Two above.

A checklist for data that must be monitored is available here: [Subpart Z Monitoring Checklist](#).



What Information Must Be Reported?

In addition to the information required by the General Provisions in Subpart A, found at 40 CFR § 98.3(c), the following must be reported under the circumstances indicated:

- If a CEMS is used to measure CO₂ emissions, then under Subpart Z the relevant information required by Subpart C (Fuel Combustion Sources) found at 40 CFR §§ 98.30 – 98.38 for the Tier 4 calculation methodology and the following information must be reported:
 - Identification number of each wet-process H₃PO₄ process line.
 - The annual CO₂ emissions from each wet-process H₃PO₄ process line (metric tons (tonnes)).
- If a CEMS is not used to measure emissions, then the following information must be reported:
 - Identification number of each wet-process H₃PO₄ process line.
 - Annual CO₂ emissions from each wet-process H₃PO₄ process line (tonnes).
 - Annual H₃PO₄ production capacity (tons) for each wet-process H₃PO₄ process line.
 - Method used to estimate any missing values of inorganic carbon content or CO₂ content of PO³⁻⁴ rock for each wet-process H₃PO₄ process line.
 - Number of wet-process H₃PO₄ process lines.
 - Number of times missing data procedures were used to estimate phosphorous rock consumption (months), inorganic carbon contents of the PO³⁻⁴ rock (months), and CO₂ contents of the PO³⁻⁴ rock (months).
 - Annual process CO₂ emissions from H₃PO₄ production facility (tonnes).

In addition, all annual GHGRP reports must include the following information for each H₃PO₄ production line:

- Annual H₃PO₄ production, by origin of the PO³⁻⁴ rock (short tons (tons)).
- Annual H₃PO₄ production capacity (tons).
- Annual arithmetic average percent inorganic carbon or CO₂ in PO³⁻⁴ rock from monthly records (percent by weight, expressed as a decimal fraction).
- Annual PO³⁻⁴ rock consumption from monthly measurement records by origin (tons).

Facilities not using CEMS must enter certain data into the GHGRP *Inputs Verifier Tool* (IVT), which uses the data to calculate the GHG emissions. The data entered in IVT are not collected by EPA.



What Records Must Be Maintained?

Reporters are required to retain records that pertain to their annual GHGRP report for at least three years after the date the report is submitted. Please see the [Subpart A Information Sheet](#) and 40 CFR § 98.3(g) for general recordkeeping requirements. Specific recordkeeping requirements for Subpart Z are listed at 40 CFR § 98.267.



When and How Must Reports Be Submitted?

Reporters must submit their annual GHGRP reports for the previous calendar year to the EPA by March 31st, unless the 31st falls on a Saturday, Sunday, or federal holiday, in which case reports are due on the next business day. Annual reports must be submitted electronically using the [electronic Greenhouse Gas Reporting Tool \(e-GGRT\)](#), the GHGRP's online reporting system. For facilities required to use the e-GGRT IVT, reporters must enter required data into the e-GGRT IVT, which includes inputs to emission equations for which reporting is not required. IVT uses these data to calculate the equation results.

Each report may be prepared by either a designated representative, an alternate designated representative or agent(s) of the owner or operator. The report must be signed by a designated representative of the owner or operator, certifying under penalty of law that the report has been prepared in accordance with the requirements of the rule. Additional information on setting up user accounts, registering a facility, and submitting annual reports is available on the [GHGRP Help webpage](#).



When Can a Facility Stop Reporting?

A facility may discontinue reporting under several scenarios, which are summarized in Subpart A (found at 40 § CFR 98.2(i)) and the [Subpart A Information Sheet](#).



For More Information

For additional information on Subpart Z, please visit the [Subpart Z webpage](#). For additional information on the GHGRP, please visit the [GHGRP website](#), which includes additional information sheets, [data](#) previously reported to the GHGRP, [training materials](#), and links to Frequently Asked Questions ([FAQs](#)). For questions that cannot be answered through the GHGRP website, please contact us at: GHGreporting@epa.gov.

This Information Sheet 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.