

Beneficial Use of Phosphogypsum



Phosphogypsum (PG) is the byproduct of phosphate fertilizer production. Phosphate is one of three essential nutrients critical to crop production. PG is currently stored in large stacks and is essentially a waste product in the United States. Countries around the world reuse the material and the United States should, as well.

Policy Ask

Amend the Clean Air Act (CCA) § 112(r) to:

- explicitly state that PG be used in government road construction projects if the average PG concentration is less than 35 pCi/g; and,
- require the Environmental Protection Agency (EPA) amend the National Emission Standards for Hazardous Air Pollutants to allow for an industry-wide petition for beneficial PG use.

Key Points on PG Reuse

- Prior to December 1989, PG was considered an item of commerce and sold for agricultural use in central and north Florida and throughout the United States at locations where it was manufactured.
- Currently allowed to be used as a soil amendment if <10 pCi/g.
- Beneficially used in Canada, Europe, India, and South America with Brazil using 100% of PG.

Science on PG Reuse

- The Atomic Energy Commission concluded that, "All evidence suggests that the [radiation] doses received as a result of the use of phosphogypsum in agriculture, road construction, in the marine environment, and in landfill facilities are sufficiently low that no restrictions on such use are necessary."
- TFI's risk assessment demonstrates its use in road construction is safe and conforms to the EPA conclusion that a 3 in 10,000 risk level is protective of human health and consistent with EPA's long-standing risk management goals.
- EPA agreed with TFI risk assessment that PG use is safe for road construction and did not dispute the scientific human health risk conclusions.

Petition for Use History

2019: TFI filed request and a subsequent revised request seeking EPA's approval of the use of PG in government road construction projects.

2020: EPA approves TFI's request, with certain conditions.

2021: EPA withdraws their prior approval. EPA's withdrawal due to non-risk related matter; EPA regulation requires project specific data (e.g., quantity of PG, location to be used, etc.) be submitted prior to approval. Petition granted a blanket approval with requirement to submit project specific during DOT application process

History

In 1980, Congress amended the Resource Conservation and Recovery Act (RCRA) to temporarily exclude PG from regulation as a hazardous waste under the "Bevill" exclusion until EPA conducted a comprehensive human health and environmental study regarding the disposal and utilization of PG, issued a Report to Congress, and published a final Regulatory Determination. In both their Report to Congress and the 1991 Regulatory Determination, EPA concluded that sufficient controls were in place to manage the **USE** or **STORAGE** of PG under RCRA and CERCLA and announced plans to evaluate potential process modifications and technologies that may be applicable to PG generation under the Toxic Substances Control Act (TSCA). In 1995, after a thorough review, EPA concluded that no better alternatives to the existing process were available.

In 1989, EPA promulgated a Clean Air Act (CAA) rule requiring the placement of PG in stacks or phosphate mines. Since that time, EPA has amended its rule to allow the distribution and use of PG for agricultural purposes and research and development. EPA also set forth an approval process for other uses of PG, provided the proposed uses are at least as protective as placement of PG in stacks or mines.