

Why a limit of 20 mg Cd/kg P₂O₅ matters for the EU

Fertilizers are an essential part of modern agriculture, offering plants the necessary nutrients for growth and development. When used correctly, they contribute to global food security, thereby helping to alleviate poverty. However, their use can also have unintended negative consequences. For example, over-application can lead to nutrient runoff, which can cause eutrophication. Likewise, **many fertilizers contain more than just nutrients, with unwanted or potentially harmful impurities including heavy metals (“HMs”).**

One such HM is cadmium which is toxic to humans and animals when ingested. Prolonged exposure will affect the skin, organ function, and contribute to the development of cancer. Research undertaken by the WHO has shown that around 200,000 people die every year from chemical poisoning, including poisoning by cadmium. This could increase in the near future, as some societal groups are seen to be exceeding acceptable intake limits (as established by the European Food Safety Authority).

For this reason, **the European Commission has proposed limiting the amount of cadmium, and other HMs, that are allowed in mineral fertilizers.** They argue that contaminated fertilizers contribute to the build-up of HMs in soil, which can then transfer to crops, and ultimately find their way into animal and human diets.

The Commission believes that limiting cadmium in fertilizers to 20 mg Cd/kg P₂O₅ is key in preventing further build-up of this heavy metal in soils, thereby helping preserve the environment. **This view is echoed in research undertaken by Wageningen University, which has found that cadmium levels will rise across EU soils if fertilizers contain more than 20 mg Cd/kg P₂O₅.**

The Commission’s plan is to **introduce limits on a progressive basis, starting at 60 mg Cd/kg P₂O₅ and working down to 20 mg Cd/kg P₂O₅ over more than a decade.** This would provide sufficient time for fertilizer producers to adjust current business and operational practices if needed.

Moreover, the impact on the business interests of fertilizer producers with high cadmium levels is unlikely to be as great as some claim: research has shown that **the average level of cadmium in phosphate fertilizers available across the EU-28 was around 30 mg Cd/kg P₂O₅ during 2016.** According to trade data, around **half of the available product already meets the strictest limit (20 mg Cd/kg P₂O₅)** proposed by the European Commission, **while just 12% was in breach of the upper limit (60 Cd/kg P₂O₅).**

Two EU-28 countries with larger exposure to cadmium in their fertilizers are Poland and Spain. This partly stems from the use of imported Senegalese phosphate rock, which currently may contain 2-4 times more Cd than the upper limit proposed by the European Commission (60 mg Cd/kg P₂O₅). **In 2016 alone, the use of this phosphate rock in the manufacturing of fertilizers has contributed to an estimated 40,000 kilograms of Cd becoming available for application to crop-growing fields across both countries.**

The 12% of product that breached the upper limit could yet play an important role. During 2016, this represented around **540,000 tonnes of nutrient.** If this volume of fertilizers were to be decadmiated, or sourced from one of the Safer Phosphates partners, **the EU-28’s weighted average cadmium content would already fall below 20 mg/kg P₂O₅.**

Safer Phosphates believes that the **EU has a real opportunity to introduce legislation to protect soils from harmful impurities.** The 20 mg Cd/kg P₂O₅ limit is achievable and will benefit the EU population for generations to come. Notably, it also sets a standard for the rest of the world to follow, promoting long term agricultural sustainability on a global basis.

Safer Phosphates was established in May 2017 to help **overcome the dangers posed by HMs in fertilizers,** which are not only a risk to **longer-term food security,** but also **to environmental, animal, and human health.**