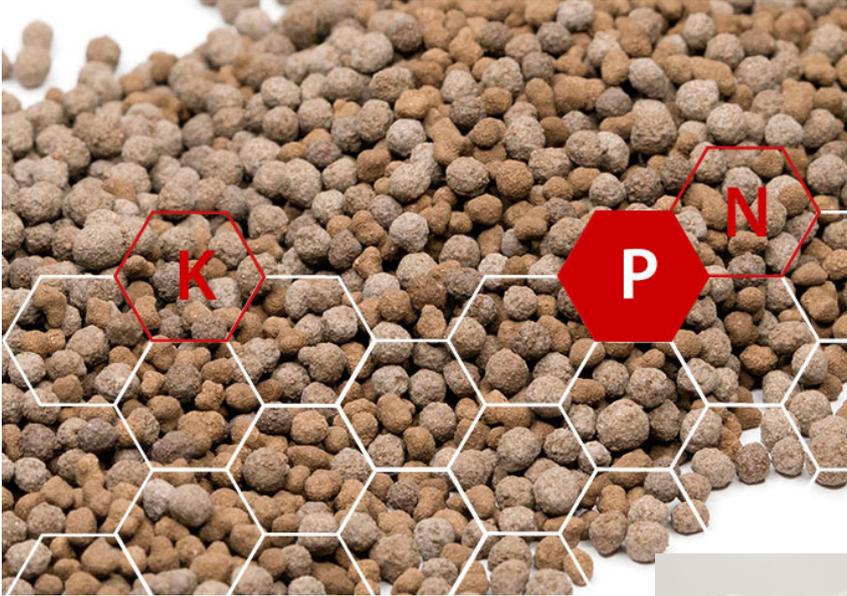


PHOS4green

PHOSPHORUS RECOVERY FROM SEWAGE SLUDGE ASHES

UTILIZATION OF UNUSED PHOSPHORUS SOURCES



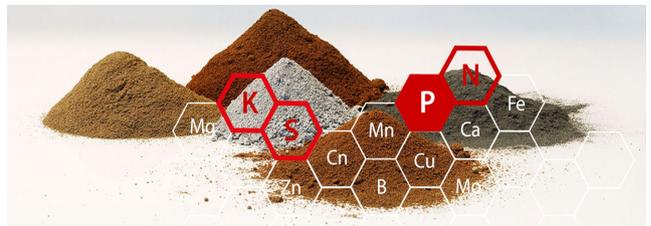
High performance products made from sewage sludge ash

With PHOS4green, you can turn sewage sludge ash into valuable soil-specific and plant-specific fertilizers that are equivalent to conventionally-made fertilizers and comply with the federal fertilizer ordinance:

- » Super or triple phosphate, with up to 46% available phosphate content
- » Multi-nutrient fertilizers (NPK, NP, PK) for customized plant nutrition

Phosphate - an irreplaceable nutrient

Most of the world's phosphorus is used in fertilizers and animal feed. However, the known phosphorus reserves are decreasing worldwide. This is particularly problematic because phosphate that is used in fertilizers cannot be replaced and intensive farming without phosphate fertilization is impossible.



Source of raw phosphate: sewage sludge

Organic residues such as sewage sludge, farm manures such as liquid manure and dung, as well as fermentation residues are a cost-effective and sustainable alternative to mineral fertilizers. Incineration of sewage sludge replaces direct application, which will be prohibited in the future. Mono-incineration allows recovery of the valuable phosphorus contained in the ash.

Utilizing valuable phosphate resources

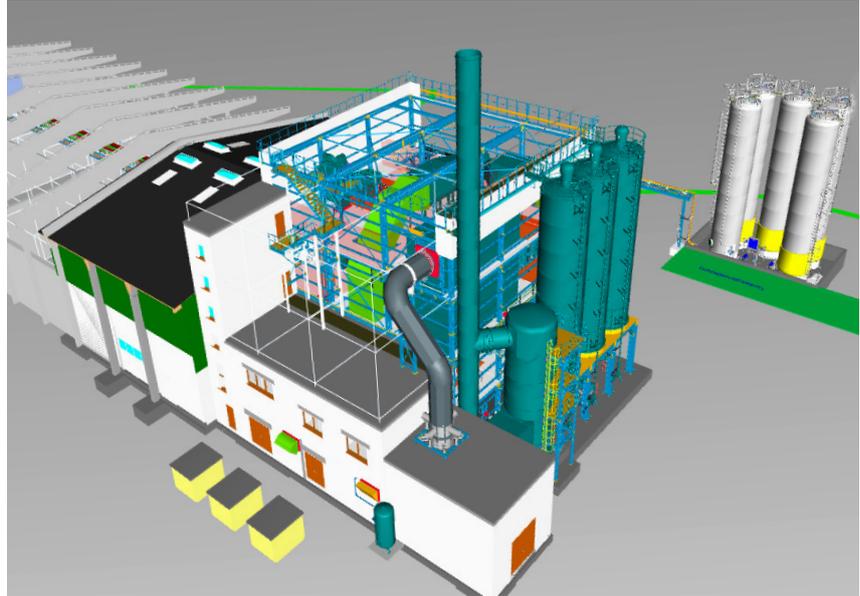
PHOS4green distinguishes itself from other approaches of recovering of phosphorus out of ash from mono-sewage sludge incinerations. Under current market conditions, PHOS4green is economical, technically mature, and compensates for the significant deficiencies in typical ash composition variability. The phosphorus fertilizer recycles recovered from this process are excellently suited to optimally cover plant- and soil-specific nutrient requirements and can therefore be used by farmers without restriction.

Your benefits:

- » Reliable disposal by converting sewage sludge ash into high-quality, marketable fertilizers
- » Use of the produced fertilizers in both conventional and organic farming in compliance with the German Fertilizer Ordinance (DüMV)/ Regulation EG No. 2019/1009
- » Utilization of indigenous sources of phosphorus
- » Elimination of expensive disposals
- » Complete, waste-free recycling of sewage sludge ashes
- » Heavy metal depletion if required

PHOSPHORUS RECOVERY USING GLATT TECHNOLOGY

With our innovative PHOS4green technology, you can flexibly use phosphate nutrients that were previously lost. Create a native, long-term secured phosphate source for sustainable agriculture!



An innovative solution

We offer you an economical and flexible technology for extracting phosphorus from sewage sludge ashes. We have developed an innovative, patented process in which sewage sludge ash is first generated from the phosphate-containing secondary raw material, and a suspension is produced from mineral acid and further nutrient components if necessary. The phosphate in the sewage sludge ash is macerated by the acid.

The suspension that is thereby produced is then spray-granulated in a fluidized bed apparatus. The production of the suspension and thus the reaction of the phosphate conversion takes place separately from the granulation process.

In this way, valuable granules are created that can be used as high quality phosphate fertilizers or as plant and soil-specific multi-substance fertilizers, for instance as NPK fertilizer.

Glatt is your engineering and technology partner with more than 60 years of process expertise. We accompany you from the initial idea through the consultation stage at the time of process and general planning, all the way to start-up of turn-key production.

Concept, process & factory planning

Glatt offers the possibility to adapt the process and systems to your specific requirements. You can benefit from our many years of experience in process optimization!

A complete package: Plant engineering + process expertise

We offer planning services from the overall concept to detailed planning and build and deliver your plant turnkey. So we are your one-stop shop for all of the necessary technology for the manufacturing process and the process expertise.

Development of various site-related synergy effects

The use of waste heat and the saving of environmentally incompatible substance transports by recycling the accumulating phosphate ash from the mono-incineration plants further improve the ecological balance.

Marketing of fertilizer

Upon request, we can put you in touch with cooperation partners who have an excellent sales network for your products.



www.phos4green.glatt.com

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