

Ash and moisture analysis of sewage sludge from wastewater treatment with prepASH 340 Series

Sewage sludge has valuable agronomic properties in agriculture. In using sewage sludge account must be taken of the nutrient needs of the plants without, however, impairing the quality of the soil and of surface and ground water. Some heavy metals present in sewage sludge may be toxic to plants and humans.

The sewage sludge contains mainly the microbes of the biological treatment of wastewater, sand and water. Dry mass and ash determination are done in the standard analysis of sewage sludge and in wastewater (usually done after filtration to reduce the water).

This analysis gives first information on organic and inorganic content of the sludge.

Use of sewage sludge in agriculture

http://europa.eu/legislation_summaries/agriculture/environment/l28088_en.htm

The European Union regulates use of sewage sludge in agriculture to prevent harmful effects on soil, vegetation, animals and humans. In particular it sets limits on the concentrations of certain substances in these sludges, bans the use of these sludges in certain cases and regulates the treatment of sludge.

ACT Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture [See amending acts].

Applications available from Precisa:

prepASH 7013 Sludge Analysis (with filter) - 7014_071003_Filter

prepASH Sludge Analysis 7014 (without filter)_ digested sludge, raw sludge



Precisa APPLICATION



prepASH – optimal solution to determine ash

Reduced time and effort. prepASH is a fully automatic drying and ashing equipment, so no multiple weighing back after time consuming cooling down in the dessicator but automatic calculation of results. Working in groups of similar samples in a single run will rise efficiency and optimise time of analysis.

Improved safety and efficiency. No more dangerous analysis with the open flame. With prepASH analyses can be done in time slots unused or hardly ever used so far, e.g. at night.

Increased quality. Up to 20% of each ash determination has to be re-analysed because of faulty/undefined results. prepASH is highly repeatable and reliable!

Detailed analysis reports. Due to the permanent recording of measurements during the entire process and the automatic saving of the final results, all data are retrievable at any moment.

Working Steps of moisture and ash determination

Standard Method with oven	vs.	prepASH
Heating out crucibles for constant weight before	Dry matter	Possibility to pre-define a "heating out"
Measuring tare of crucible one by one		AUTOMATIC PROCEDURE
Sampling		Sampling
Weighing + documentation of each crucible		AUTOMATIC + entering the sample
Samples in drying oven + START		START PROGRAM
Removing samples from oven + cool down		RESULTS (moisture)
Back weighing Samples, calculation (moisture)		
Pre-ashing with rapid incinerator or hot plate	Ash	RESULTS (ash)
Samples in muffle furnace		
Removing samples + cooling down in exsiccator		
Calculation and documentation (ash)		
Back weighing for stable results (repeat?)		