

Recovery and utilisation of nutrients for low impact fertiliser



Fertiliser product fact sheet – Ammonium sulphate $((\text{NH}_4)_2\text{SO}_4)$

Ammonium sulphate fertiliser recovered from anaerobic effluents by air stripping

Ammonium sulphate $((\text{NH}_4)_2\text{SO}_4)$ is an inorganic salt with in solid form a colour range between white and beige. Its high solubility makes it an appropriate compound for a number of agricultural applications. The nitrogen is entirely present in the form of ammonium. This fertiliser is mainly used on crops that need larger amounts of sulphur, such as e.g. rapeseed and potatoes.

When recovering nitrogen from wastewaters using air stripping, ammonia gas is passed to a scrubbing step where it is absorbed in a sulphuric acid solution. This process is applied at the Run4Life demo-site Helsingborg. The resulting ammonium sulphate solution can be used directly as a liquid fertiliser, or in blends with other fertiliser products. In Helsingborg, the ammonium sulphate is harvested as a solid to be blended in solid mineral and organo-mineral fertiliser products (see image below). The nitrogen content of the solid ammonium sulphate produced in Helsingborg is 20%.

Key facts

- General appearance: liquid solution
- Nitrogenous fertiliser with acidifying effect on soil.
- Liquid and solid form
- Used as single fertiliser or in blends with other fertilisers to supply sulphur
- Sulphur content too high for some crops

Ammonium sulphate in Run4Life

- Produced via ammonia stripping by air
- Demosite: Helsingborg

(see corresponding factsheets)



A struvite, ammonium sulphate and potassium chloride granule (white) and the same compounds pelleted with dewatered food waste sludge (right). Image by NSVA.

