

# Petronet DeAmon<sup>®</sup>

Decrease ammonia in the anaerobic digestion process.



It is a compound based on micronized ZEOLITE (aluminum-silicate-calcium-potassium-sodium hydrate) that Amapex has developed to be used directly in anaerobic digesters for the reduction of ammonium concentration.

This product has been successfully applied in biogas plants in Spain and Portugal.

It is able to fix the bacterial consortium and adsorb the long chain fatty acids and the ammonium ion, responsible for the inhibition of the methanogenic process.

## PHYSICAL CHEMICAL PROPERTIES

- Appearance: greenish gray granules.
- Particle size: <math><50\mu\text{m}</math>.
- Apparent density: 0,6 g/cm<sup>3</sup>.
- Porosity: 24-32%.
- pH (10% in water): 7-8.
- Hardness MOHS: 3,0-3,5.
- Chemical stability (pH): 3<pH<11

## COMPOSITION:

- SiO<sub>2</sub> 68,15%.
- Al<sub>2</sub>O<sub>3</sub> 12,30%.
- CaO 3,95%.
- K<sub>2</sub>O 2,80%.

## PRODUCT PRESENTATION:

- 25kg PP bags.
- Pallets of 40 bags (1000kg.)
- 1000Kg Bigbags.

Petronet DeAmon<sup>®</sup> does not contain any biological agent that can cause diseases to people, animals or plants.

## **Petronet DeAmon<sup>®</sup>, promoter of the reduction of NH<sub>4</sub><sup>+</sup> in anaerobic digestion**

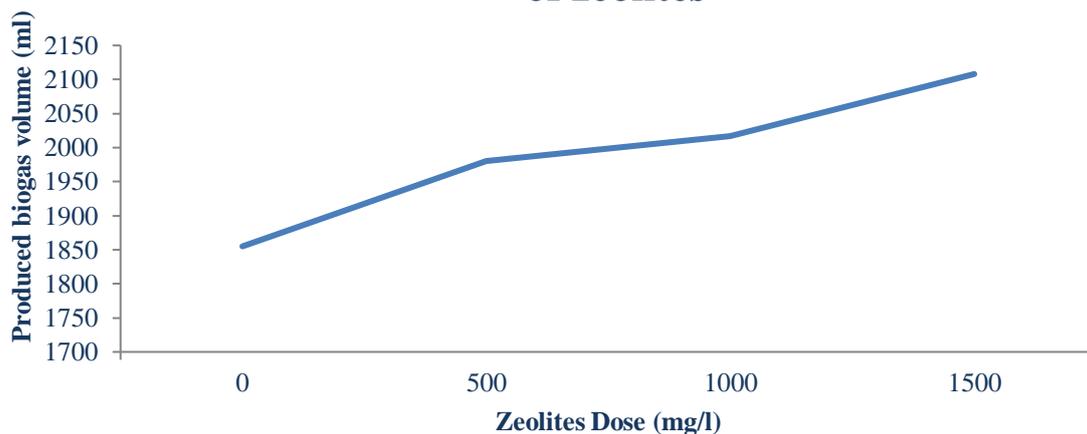
The biogas generation plants use essentially urban, agricultural or forest waste, in definite organic matter in different phases of decomposition. These materials are placed in anaerobic conditions (absence of oxygen). The decomposition of these materials produces biogas, which consists mainly of methane.

The presence of ammonium (inherent to the process) derived from the high protein load in the anaerobic digestion can mean the complete inhibition of biogas production. The adsorption capacity of ZEOLITE, and its selectivity for the ammonium ion, drastically reduces its concentration.

### **ADVANTAGE:**

- Clean and safe to use.
- It is added directly to the digester without the need for dosing systems.
- Economic and efficient method for the reduction of ammonium.
- Improves the ammonia / ammonium ion balance.
- Adsorbs long chain fatty acids.
- High capacity to fix the bacterial consortium.
- No special storage required. Its use does not require any specific training, since it does not involve the handling of dangerous substances. It is stored in 25 kg paper sacks and can be added directly to the process without having to open them.

### **Increase of Biogas volumen after the application of zeolites**



Montalvo, S. (2003). *Energética*. Vol. XXIV, nº 1/2003.