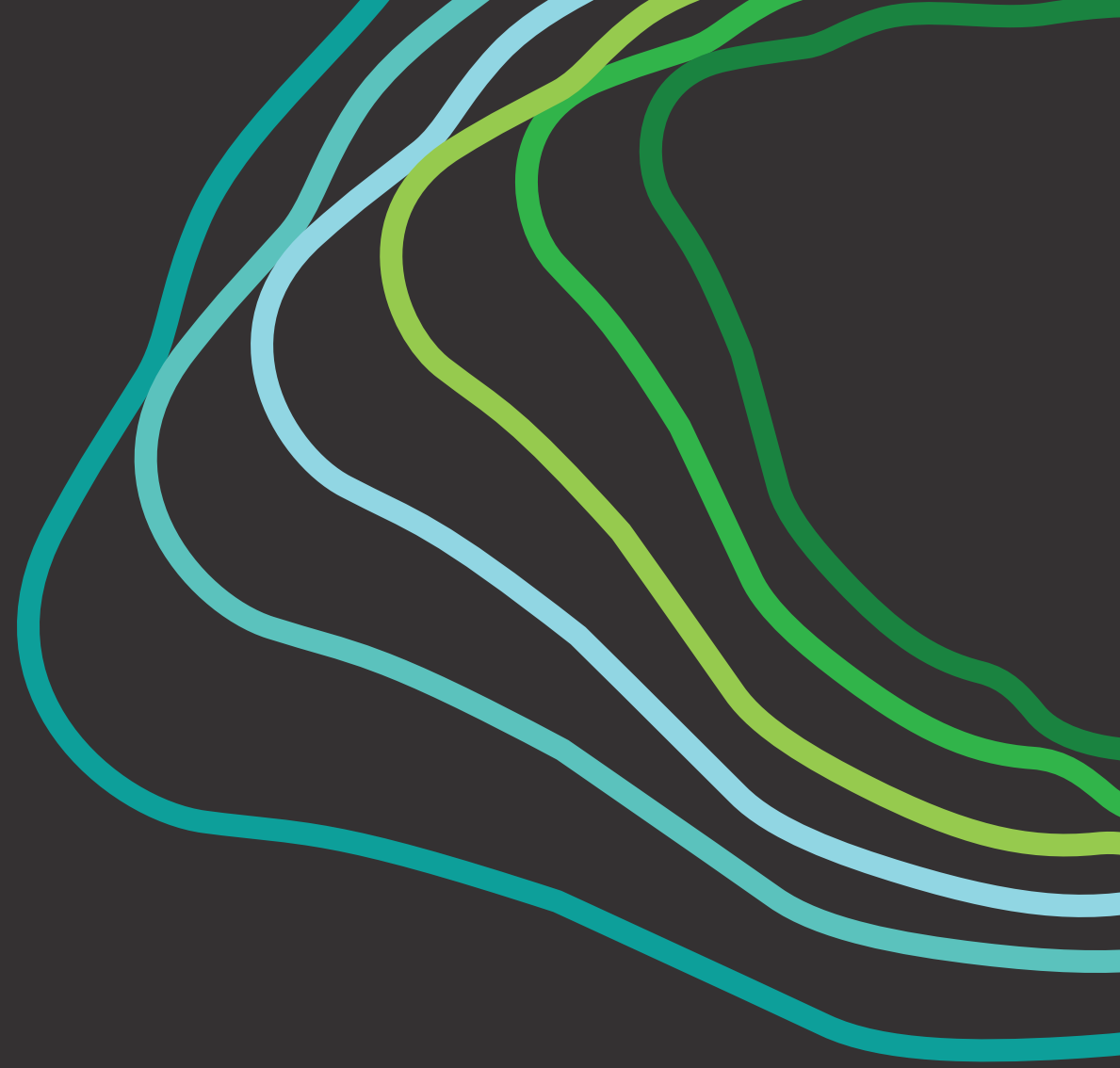




AgroMag

By Brucite⁺



Recommendations

AgroMag[®] in the production of AN

Description and application

Unlike to organic anti-caking agents, AgroMag® in the form of a powder is introduced directly into the granules of ammonium nitrate during production.

AgroMag® not only significantly reduces the caking and porosity of fertilizers, but also significantly improves color, increases the strength of granules and helps optimize the granulometric composition of fertilizers.



How does AgroMag[®] work?

During ammonification, in nitric acid magnesium compounds form finely dispersed and poorly soluble complex crystalline hydrates, which contributes to the formation of nucleating centers and bind water around them, taking it from the granule surface, increasing the degree of supersaturation of solutions and, accordingly, accelerating the crystallization of ammonium nitrate particles.

Application

AgroMag® is used to prepare a solution of $\text{Mg}(\text{NO}_3)_2$, which is obtained in reactors based on diluted nitric acid with a concentration of 30–35%. Then the solution of magnesium nitrate is added to a solution of ammonium nitrate.

Product consumption per 1 ton of ammonium nitrate is, on average, 3–4 kg which gives a content of about 0.35 or 3.5 kg/t of MgO in the finished fertilizer. As a result, the strength of the granules increases from 0.7 to 1.2 kg/granule.

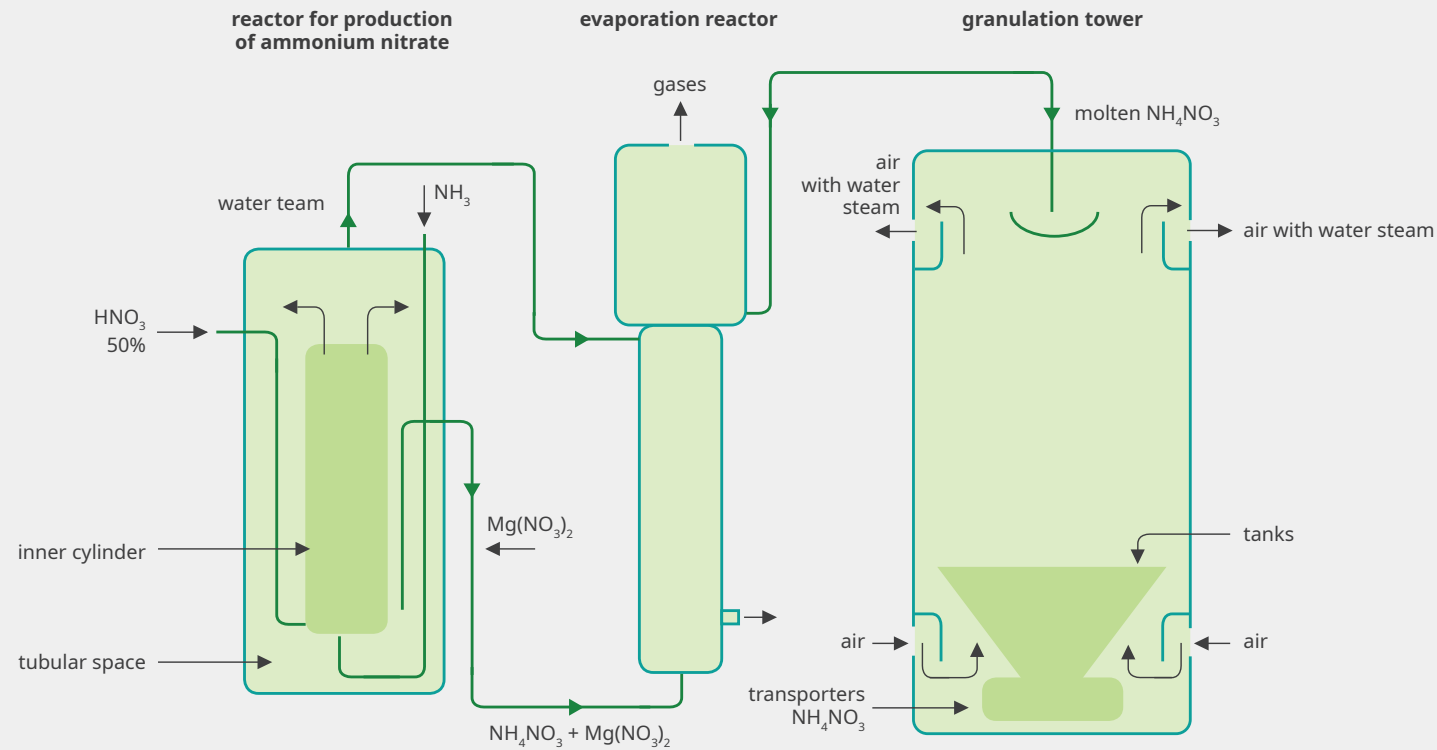
By increasing the MgO content in the finished product to 0.5% (5 kg/t), granule strength up to 1.5 kg/granule can be achieved.



Application

For the entire and correct application of AgroMag® product and the intensification of the process in the reactors, intensive mixing is required. Efficient mixing is the most important factor in the preparation of nitric acid extract.

Aeration by compressed air is one of the most efficient and economical methods.

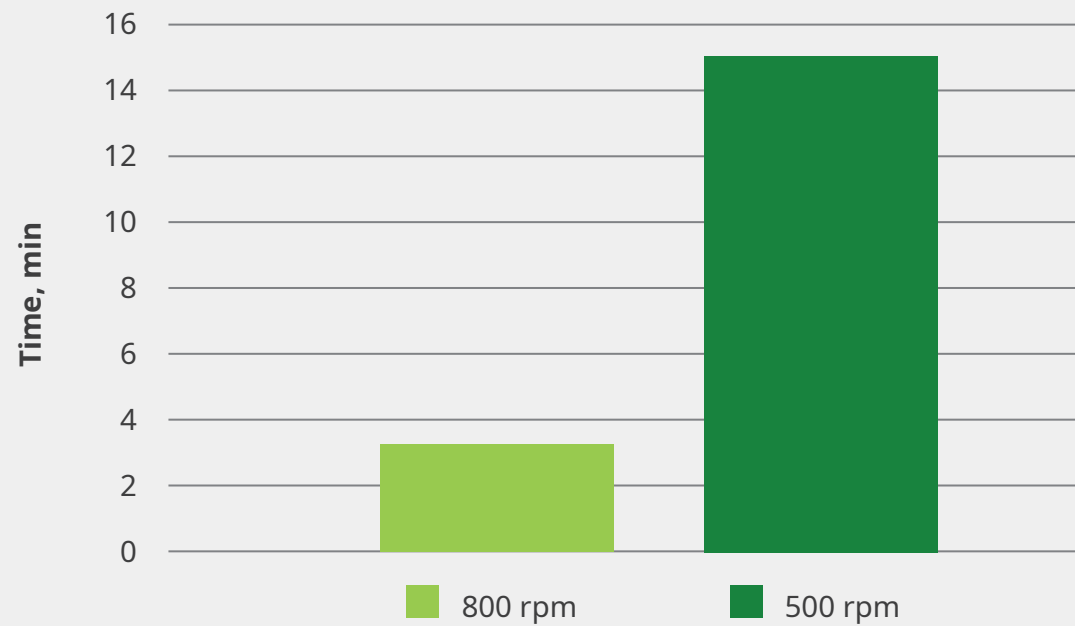


Picture 1. Production of AN using AgroMag®

Application

An example of the effect of magnetic stirring intensity on the solubility of the AgroMag® 600 product in 31% nitric acid is presented in Picture 2.

Picture 2. Dissolution time in acid 31%, min



AgroMag[®] advantages

- Low sulfates content (less than 0.01%). It means that at high temperature, sulfates deposits will not salt out on the tubular walls of the heat exchange equipment and pipelines resulting in total blockage of the system. Accordingly, deposits will not reduce the rate of heat exchange processes and productivity of the equipment. Hence, there is no need to stop the production for cleaning of the system.
- High whiteness of AN granules due to the low content of impurities of iron and chloride.
- Highest magnesium content compared to other magnesium minerals.
- Very low insoluble part — AgroMag[®] is not a waste of roasting process and does not contain insoluble crystalline periclase MgO or raw magnesite MgCO₃.
- Does not emit CO₂ during dissolving.
- Reduces the loss of nitric acid due to the optimal temperature of the dissolution process 85–95 °C.
- Economical efficiency (the cost of the AgroMag[®] product is 8–10 times less than the cost of organic anti-caking agents).

By choosing AgroMag® products you ensure best technical support for application of product and receive a possibility to develop a custom solution with individual properties.

Please contact us via request form.



www.brucite.plus
+7 (495) 789 65 30
info@brucite.plus

