

# ALIEN PROPERTY CUSTODIAN

## METHOD FOR THE UTILIZATION OF POTASH-CONTAINING MINERALS AS FERTILIZERS

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It is technically possible to utilize minerals containing assimilable potash, such as potash mica (phlogopite), glauconite and leucite as fertilizers in a finely ground condition.

Owing to the comparatively low potash contents (from about 7 to about 10%) and large contents of inactive components their use as fertilizers for economical reasons have not been carried out in practice to any large extent, mostly due to excessive cost of transport.

In accordance with the present invention minerals of the kind above referred to are utilized for the production of a potash-and nitrogen-containing fertilizer by using the minerals in a finely ground condition as admixture to nitrate of ammonia. The last mentioned product is an excellent nitrogen fertilizer, which is however not used in a pure condition for the reason, amongst others, that it is too concentrated.

By mixing this highly concentrated nitrogen fertilizer in a suitable proportion with a low-concentrated potash fertilizer obtained by finely grinding the potash-containing minerals mentioned, it is therefore obtained on one hand to reduce the nitrogen concentration of the resulting fertilizer to an amount with which detrimental effects are avoided, whereas on the other hand the utilization of the potash contents of the said minerals in an economical way is made possible, as the large load of inactive components in the potash minerals, which otherwise would make the transport of said minerals as fertilizers uneconomical, is utilized in connection with the concentrated nitrogen fertilizer—nitrate of ammonia—which is thus caused to take over a considerable percentage of the transport expenses for the said deadweight components.

In the production of the new fertilizer the following steps may be used:

61 parts of nitrate of ammonia is melted with 4 parts water at 110°. In this melt there is stirred 39 parts finely ground phlogopite flour with 8%

K<sub>2</sub>O. The melt is then caused to solidify by being squirted or spread into a chamber, in which the drops solidify to a hallike product.

The product obtained contains about 20,5% N and 3,1% K<sub>2</sub>O.

If a product with for instance 16% N is manufactured, the contents of K<sub>2</sub>O will be approximately 4%.

The product obtained may be exposed to a drying process, which may under certain conditions be important in order to counteract the hardening of the product during storing for a long period. In order to counteract such hardening processes it has proved advantageous to powder the product for instance with mica flour.

By using mica flour as an addition to nitrate of ammonia there is obtained during the process of manufacture the advantage that less ammonia is given off than is the case with the use of lime stone or dolomite, which both react more easily with the nitrate of ammonia than mica.

As above mentioned there may be used instead of phlogopite flour even other finely ground minerals containing assimilable potash, such as glauconite and leucite.

Besides the above mentioned use of nitrate of ammonia as addition there may also be used chloride and sulphate. A particular advantage is obtained by the use of phosphate of ammonia, in which case a threesided fertilizer is obtained.

One may for instance mix one part leucite with one part diphosphate of ammonia, whereby there is obtained a mixed fertilizer of approximately the following composition:

	Per cent
N .....	10,5
P <sub>2</sub> O <sub>5</sub> .....	26,8
K <sub>2</sub> O .....	9,0

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