



**CONVERSION OF EPPAWALA APATITE  
INTO SUPERPHOSPHATE USING  
HYDROCHLORIC ACID**

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## Abstract

Reaction of Eppawela apatite with HCl has been investigated in an attempt to convert rock phosphate to phosphorus enriched manure using a simple & low cost method. Although direct reaction of apatite with HCl lead to a highly hygroscopic product, physical condition of this material could be improved by the treatment with ammonia. Apatite reaction with 12% HCl followed by PH adjustment using an alkali, leads to the precipitation of dicalcium phosphate ( $\text{CaHPO}_4$ ), which could readily be used as a P-fertilizer. Use of ammonia & ammonium salts has an added extra advantage in that the product contains nitrogen in addition to phosphorus. And also the addition of KCl to the mixture ensured availability of K in required proportions. Since the cost of this product depends mainly on the cost of HCl, partial combination with Hydrochloric acid recognized as a potentially useful and economical method.