

IDENTIFICATION AND SOLUBILITIES OF MINERALS IN CRUDE TALC DRUG

¹LEE, J.Y., ²SEO, B.I., ³HWANG, D.H. and LEE, I.H., ¹KYUNGPOOK NAT. UNIV., DAEGU
²KYUNG SAN UNIV., DAEGU; ³KIGAM, TAEJON, KOREA, DAEGU; KIGAM, TAEU
DAEGU, KOREA; ³KIGAM, TAEJON, KOREA

Talc has been used in the oriental medicine as a mineral drug in the forms of crude talc drug, processed talc drug and medicine manufactured from the talc drugs and medical herbs. The talc drugs have medical properties to cure catharsis, dysentery, dry breast, poor micturition, chronic indigestion, etc. To investigate mineral species in the crude talc drug and their solubilities, which play important roles in medical effects, a sample of the crude talc drug from the Oriental Medical Hospital of Kyungsan University in Daegu, Korea was analysed by analytical instruments and X-ray diffractometer. The analytical result is MgO 31.65%, SiO₂ 60.04%, ignition loss 6.4%, Al₂O₃ 1.14%, Fe₂O₃ 0.06%. Pure talc contains MgO 31.7%, SiO₂ 63.5%, H₂O 4.8%, but in nature small amounts of Al may substitute for Si and Fe may replace some of Mg. The sample consists of talc (95.8%), tremolite (3.9%), brucite (1.4 %) and dolomite (0.6%). Their solubilities based on thermodynamic calculation decrease in the order: talc > tremolite > dolomite > brucite. Because Mg, Ca and Fe each have their own medical characteristics, the medical effects may increase with numbers of the elements in the order: talc, Mg₃Si₄O₁₀(OH)₂ tremolite, Ca₂Mg₂Si₈O₂₂(OH)₂ actinolite, Ca₂(Mg,Fe)₂Si₈O₂₂(OH)₂, which belongs to a mineral drug.