

Solubility of nicotinamide, a whitening agent in various alcohols at different temperatures

신문삼[†], 김아름

을지대학교

(msshin@eulji.ac.kr[†])

Nicotinamide is a biologically active form of niacin (vitamin B3) found widely in many root vegetables and yeasts. It is also an important precursor to the co-factors NADH (nicotinamide adenine dinucleotide) and NADPH (nicotinamide adenine dinucleotide phosphate). One of the advantages of niacinamide is its stability being unaffected by light, moisture, acids, alkalis, or oxidizers. Nicotinamide has several proposed medicinal applications in the skin including whitening, anti-inflammation. One of the advantages of niacinamide is its stability being unaffected by light, moisture, acids, alkalis, or oxidizers. In this study, solid-liquid equilibria for nicotinamide, a whitening agent in various alcohols (water, ethanol, 1-propanol, 2-propanol, 1-butanol, 2-butanol) were investigated. The solubility data for niacinamide in pure alcohols were determined at temperatures ranging from 278.15 K to 318.15 K. After totally drying saturated equilibrium solutions, the experimental solubility was determined by the gravimetric method. The experimental solubility data were correlated by the equation for solubility of a solid in a liquid, and the activity coefficients were estimated by thermodynamic models.