

The Solubility of Piroctone olamine in Alcohols at Several Temperatures

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Piroctone olamine is a compound sometimes used in the treatment of fungal infections. It has a high affinity for keratins in hair, skin and claws, and has a wide margin of safety and no significant risk of dermal toxicity, allowing its use on irritated and injured skin. Piroctone olamine is an effective, practically nontoxic antidandruff active ingredient which is particularly suitable for the manufacture of antidandruff shampoos and hair care products such as hair tonics and cream rinses with an antidandruff action. The purification of piroctone olamine can be performed by crystallization using various solvents and obviously crystallization relies upon the solubility. Accordingly, the solubility data is very important in the industrial application including purification. In this work, the solubility of piroctone olamine has been measured in various alcohols (Ethanol, 1-Propanol, 1-Butanol, 1-Pentanol, 1-Hexanol, 1-Heptanol) at several temperatures (5°C, 15°C, 25°C, 35°C). The measured data were correlated using a equation for the solubility of a solid in a liquid and NRTL, UNIQUAC and Wilson models for activity coefficients.