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DAN IN-MAR :: DYNAMICS OF DEMOISTURIZATION FROM ACETONE BY THE 3A
TYPE MOLECULAR SIEVE ADSORBENT IN AN ADSORPTION COLUMN. THESIS

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The objectives of this work are to study how to separate moisture from acetone by the 3A type molecular sieve adsorbent in packed bed column, to study the effect of various temperatures in adsorption isotherm and the effect of various feeding flow rates of acetone to packed bed column in times of mass transfer moving, velocities of mass transfer zone moving, lengths of mass transfer zone and overall mass transfer coefficient.

Research results are as followings : moisture can be separated from acetone by the 3A type molecular sieve adsorbent. It was also found that there is a relationship in approaching the equilibrium of adsorption. Isotherm will be low when increasing temperature. The adsorption isotherm graph of all temperature is 2nd type. This means, when moisture content increase, the adsorption loading will be increased to constant value and the system approaches steady state.

The higher the feeding flow rate of acetone to column, the lengths of mass transfer zone will be longer because all of times of mass transfer zone and velocities of mass transfer zone are increasing. But when the feeding flow rate of acetone to column is higher, the overall mass transfer coefficients will be lower.

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