

# Production of Carboxymethyl Cellulose from Durian hulk

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**Abstract:** Carboxymethyl cellulose (CMC), cellulose derivative from carboxymethylation of alpha-cellulose and etherifying agent in basic condition. High quality cellulose as precursor was prepared from durian hulk by boiling and water-soluble polysaccharide was removed and the remains part was subjected to pulping by prehydrolysis and alkali boiling processes. After bleaching, the carboxymethyl cellulose was obtained by solvent process with the existence of sodium hydroxide as solvent and monochloroacetic acid as etherifying agent. The purified CMC was then monitored in term of apparent viscosity, degree of substitution (D.S), and purity. The results showed that the D.S, which indicated solubility of CMC, was increased with increasing the concentration of etherifying agent. The CMC produced with the pulp to acid ratio of 1:1 and 1:1.25 showed the properties nearly equal to the textile commercial grade.

**Keywords:** Carboxymethyl cellulose, Carboxymethylation, Degree of substitution, Durian hulks

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