Science Proceedings Series (SPS)
Journal Homepage: https://readersinsight.net/SPS
9th ASIA International Multidisciplinary Conference (AIMC-2025), Songkhla, Thailand

Performance Analysis of Coating Agent Composition to Improve Physical Properties of Environmentally Friendly Greaseproof Paper

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Submitted: 17 June 2025 *Revised: 31 August 2025* *Accepted: 10 September 2025*

Peer-review under responsibility of 9th ASIA International Multidisciplinary Conference (Songkhla, Thailand) Scientific Committee
http://connectingasia.org/scientific-committee/

https://doi.org/10.31580/atg6nt10

ABSTRACT

Greaseproof paper possesses oil-resistant properties through the use of fluorochemicals; however, these chemicals have negative health effects and are harmful to the environment due to their non-biodegradable nature. Therefore, alternative chemicals with similar functions but safer profiles are needed, such as chitosan, sodium alginate, and glycerol. The aim of this study is to investigate the effect of using chitosan, sodium alginate, and glycerol as a coating on greaseproof paper. This research employed an experimental method using two different compositions, each with the same dosage variations of 20%, 30%, and 40%. The first composition included the addition of PVA, while the second composition included both PVA and native starch. The results from the first composition showed that the optimal coating performance meeting the greaseproof paper standard was achieved with 30% chitosan, yielding a kit oil value of 10, porosity of 0.3, and Cobb size of 23.5. In the second composition, the optimal coating performance was also achieved with 30% chitosan, producing a kit oil value of 4.7, porosity of 0.3, and Cobb size of 34.1.

Keywords: *Coating Agent; Greaseproof Paper; Chitosan*