

**EFFECT OF TANNIN ADDITION ON THE MECHANICAL AND
PHYSICAL PROPERTIES OF UREA FORMALDEHYDE BOARD:
A REVIEW**

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ABSTRACT

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Wood based panels has greater properties such as dimensionally stable and sufficient strength. However, in the production of wood-based panels, formaldehyde being use especially in the adhesive such as Urea Formaldehyde (UF) and Phenol Formaldehyde (PF). The emission of formaldehyde is a major concern when we are dealing with wood-based panels as during their service life, wood-based panels emit formaldehyde. Formaldehyde is one of the hazardous materials that could affect human health. The International Agency for Research on Cancer (IARC) performed an evaluation and concluded that there is high tendency that formaldehyde can cause cancer in human. Therefore, tannin which is a bio-based material has been used as formaldehyde scavenger in order to reduce formaldehyde emission in wood-based panels. However, the uses of tannin could give effect towards the properties of the board. The purpose of this study is to determine the formaldehyde emission, physical and mechanical properties of the board after tannin used as a formaldehyde scavenger. The result revealed that the usage of tannin gives better result in reducing formaldehyde level. However, the presence of tannin gives impact towards mechanical and physical properties of the boards.

Keyword: (Wood based panels, Formaldehyde emission, Tannin, Urea
Formaldehyde)

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