

INVESTIGATION OF FREE FORMALDEHYDE QUANTITY IN PRODUCTION OF PLYWOOD WITH MODIFIED UREA – FORMALDEHYDE RESIN

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ABSTRACT

This study examined free formaldehyde emission in production of plywood with modified urea-formaldehyde resin (UF). Formaldehyde scavengers- urea and ammonium bicarbonate - were added to the UF resin and its toxicity was determined according to БДC EN 1243:2011 standard. The toxicity of the resulting plywood was measured according to БДC EN 717-3: 2003. The effects of various types of hardeners also was investigated, and 2 % ammonium sulfate in relation to solid content of the resin showed the best values. The results showed that the addition of formaldehyde scavengers- urea and ammonium bicarbonate - to UF resin effectively reduced formaldehyde emission and it can be controlled within acceptable ranges.

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