

[Analytical pyrolysis properties of waste medium-density fiberboard and particle board](#)

T. U. Han, Y-M. Kim, C. Watanabe, N. Teramae, Y-K. Park, S. Kim, Y. Lee
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Abstract:

Medium-density fiberboard (MDF) and particle board (PB) showed similar pyrolysis characteristics. Thermogravimetric analysis displayed the main weight loss between 200 and 400°C, continued up to 600°C. The activation energy (E_a) values at each conversion were in the range of 166–372 kJ/mol for MDF and 161–325 kJ/mol for PB and indicated independent reactions of hemicellulose, cellulose, lignin and char stabilization. Isothermal pyrolysis produced hemicellulose pyrolyzates at 300°C. The main products at 400°C had similar distribution between MDF and PB. At 600°C, gas products were increased due to the secondary cracking of pyrolyzates.

* Excerpted from online journal website (Click the title)

Frontier Labs products used:

Multi-Shot Pyrolyzer, MicroJet Cryo-Trap, UA⁺-5, UADTM-2.5N